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The ILLINOIS Medical Journal

VOL. 87 NO. 1

January, 1945

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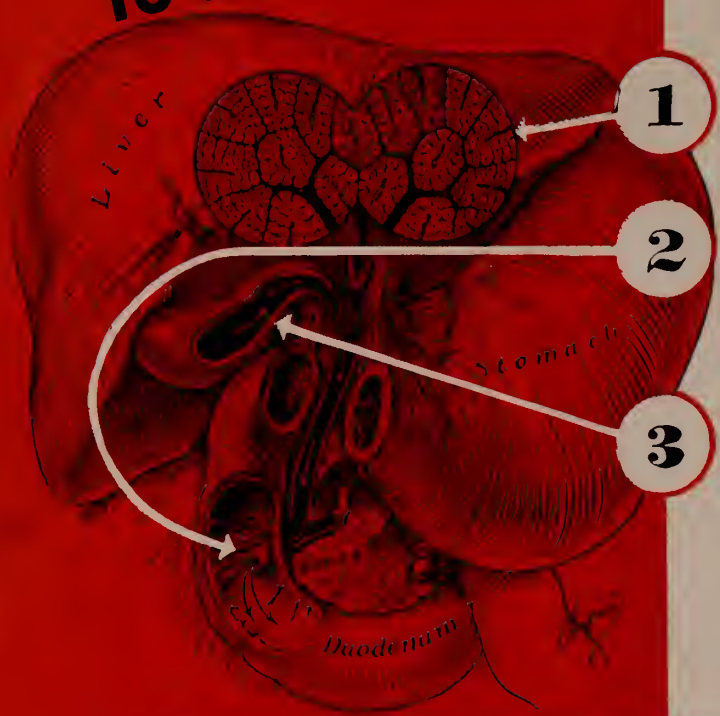
A Review of Old and Modern Treatments of Asphyxia Neonatorum

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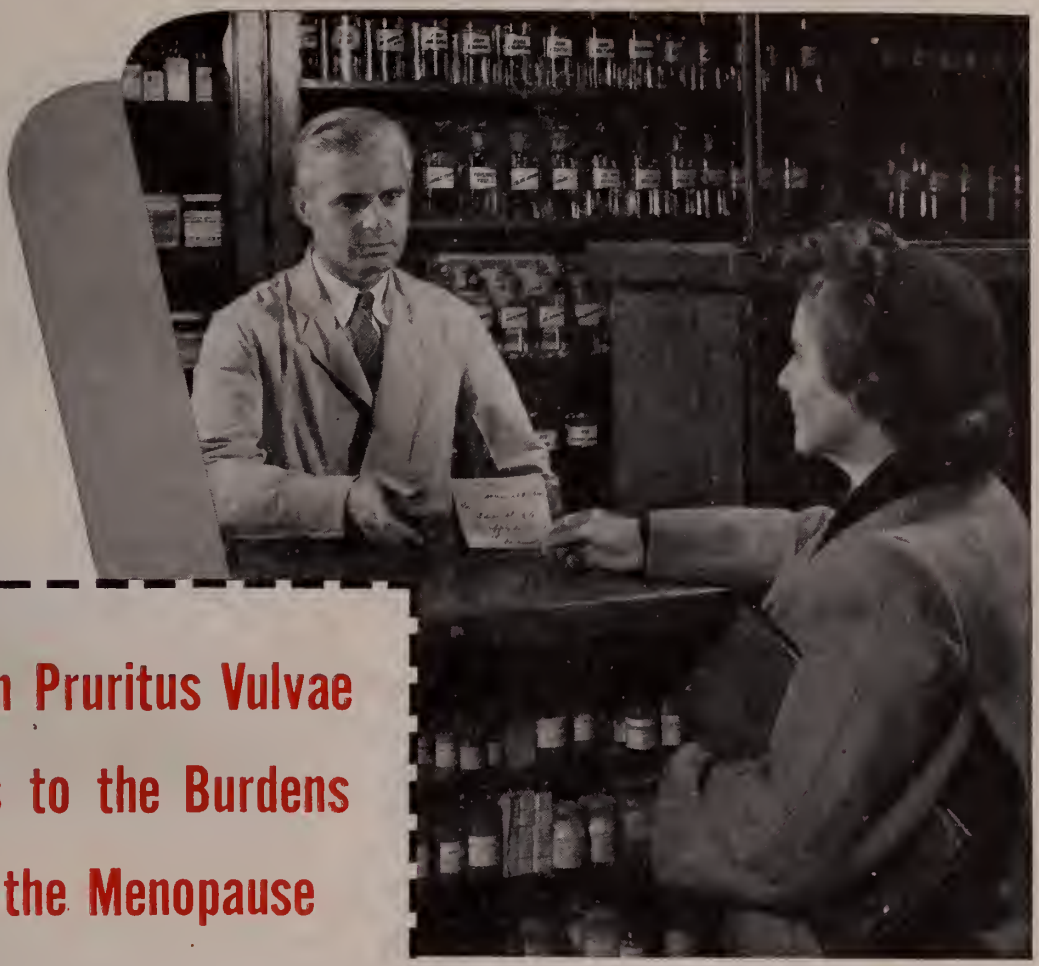
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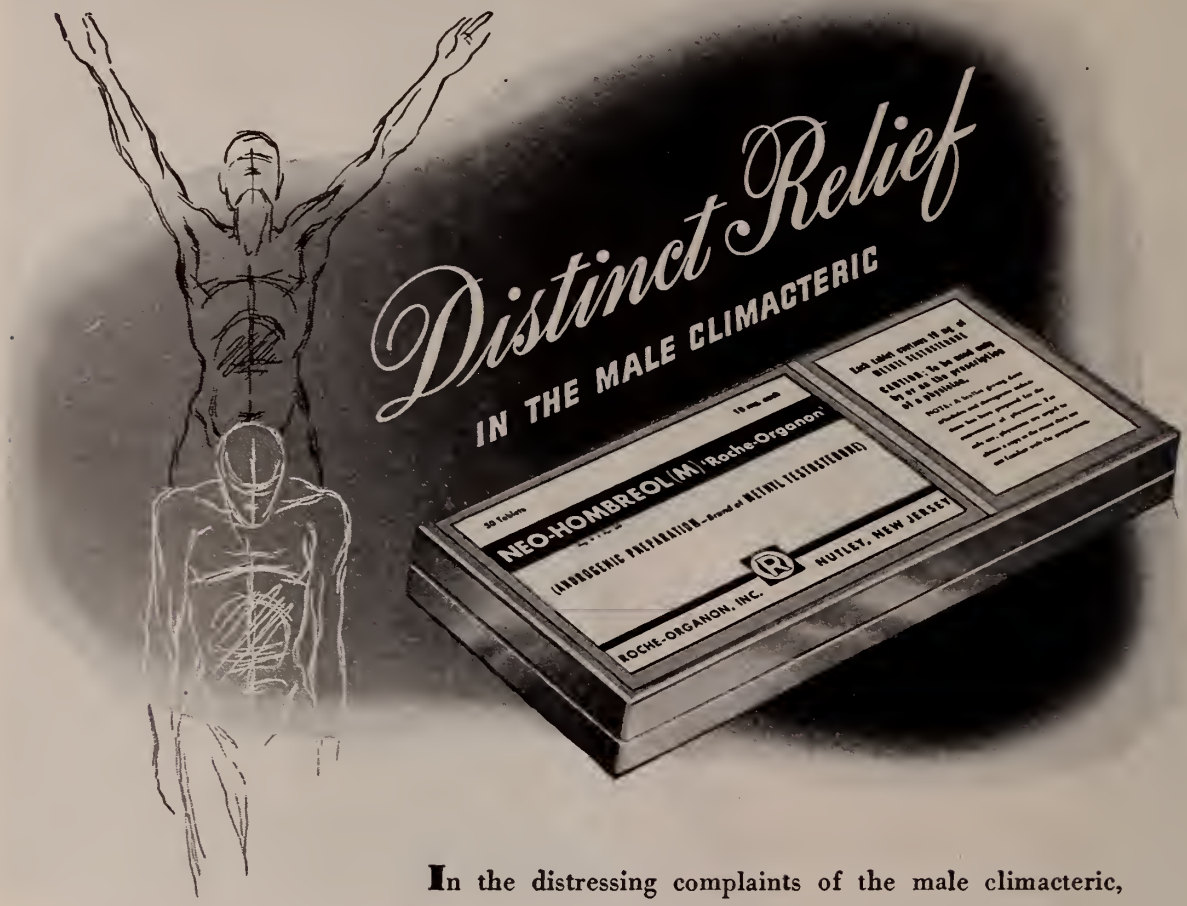
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*WOLDMAN, E. E., and POLAN, C. G.: The Value of Colloidal Aluminum Hydroxide in the Treatment of Peptic Ulcer; A Review of 407 Consecutive Cases, Am. J. M. Sc. 198: 155-164 (Aug.) 1939.



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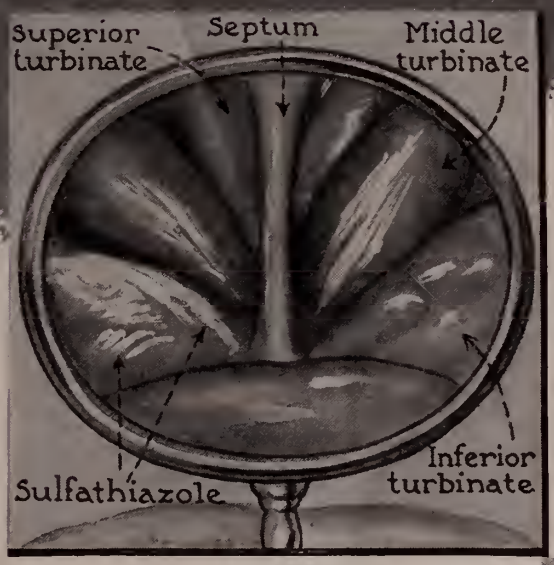
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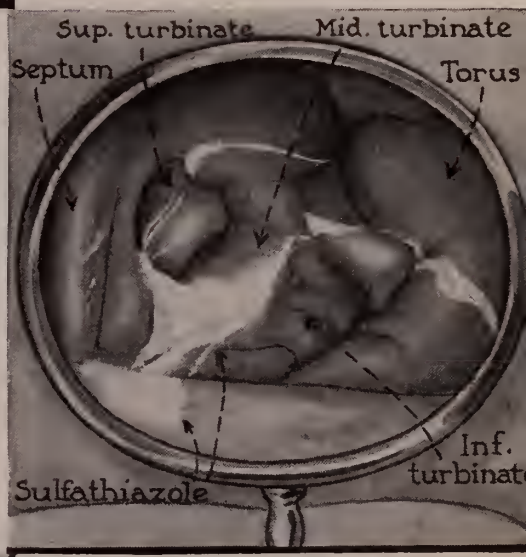


◀ 30 MINUTES AFTER INSTILLATION

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Indications—local prevention and treatment of the usual bacterial infections of the middle ear and external auditory canal.

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REFERENCES

1. Tenenberg, D. J. et al.: Proc. Soc. Exper. Biol. & Med., *51*:247-249 (Nov.) 1942.

2. Holder, H. G., and MacKay, E. M.: Mil. Surg., *90*:509-518 (May) 1942.

3. McClintock, L. A., and Goodale, R. H.: U. S. Naval Med. Bull., *41*:1057, 1943.

4. Foulger, J. H., and Foshay, L.: J. Lab. & Clin. Med., *20*:1113-1117 (Aug.) 1935.

5. Mertins, P. S.: Arch. of Otolaryng., *26*:509-513 (Nov.) 1937.

6. Ashley, R. E.: Trans. Am. Acad. of Ophth., *46*:257-264 (July-Aug.) 1942.

7. Long, P. H.: J. A. M. A., *121*:303-307 (Jan. 30) 1943.



IS SODA-BICARBONATE NECESSARY IN SALICYLATE THERAPY

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry — RARE CHEMICALS

To be effective, the treatment of acute rheumatic fever must maintain a high salicylate level in the blood.[1] When massive doses of sodium salicylate are given by mouth, an undesirable side effect—gastric distress—is frequently encountered. To relieve this effect, equal amounts of sodium bicarbonate are given. Unfortunately, a decided depression of the blood salicylate level results.[2]

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Literature and sample on request



Tablets, 5 grains, bottles of 50, 250, 1000
Powder, 1 oz. bottles

SALYSAL

The Salicylic Ester of Salicylic Acid

FOR A TRULY POWERFUL SALICYLATE THERAPY

1. Coburn, A. F.: Salicylate Therapy in Rheumatic Fever, Bull. Johns Hopkins Hosp. *73*: 435-464 (Dec.) 1943.
2. Smull, K., Wégria, R., and Leland, J.: The Effect of Sodium Bicarbonate on the Serum Salicylate Level, J.A.M.A. *125*: 1173 (Aug. 26) 1944.
3. New and Nonofficial Remedies, 1943, p. 57.

RARE CHEMICALS, INC., HARRISON, NEW JERSEY



SULMEFRIN* will afford your patients quick relief in rhinitis and sinusitis by reducing congestion of the mucosa, opening nasal passages, promoting drainage and relieving attendant headaches. Sulmefrin combines the vasoconstrictor effect of ephedrine with the bacteriostatic action of the sulfonamides. It is stable and can be expected to produce prompt and prolonged shrinkage of the nasal mucosa.

Sulmefrin is a stabilized aqueous solution of sulfathiazole sodium (2.5%) with *dl*-desoxyephedrine hydrochloride (0.125%), and is mildly alkaline with a pH of approximately 9.0. Mild alkalinity has been established by clinical investigation as being preferable in intranasal medication, because it is non-irritating to the membranes and does not inhibit ciliary motility.

Sulmefrin—available in ounces and pints—may be administered by spray, drops or tamponage.

* "Sulmefrin" (Registered in U. S. Patent Office) is a trademark of E. R. Squibb & Sons.

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For prompt relief from the congestion of winter colds, prescribe . . .

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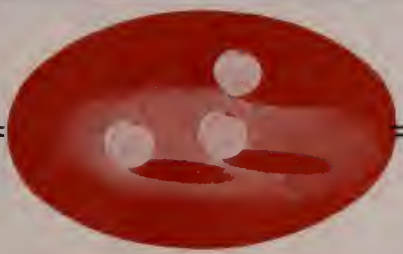
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(Pitman-Moore)

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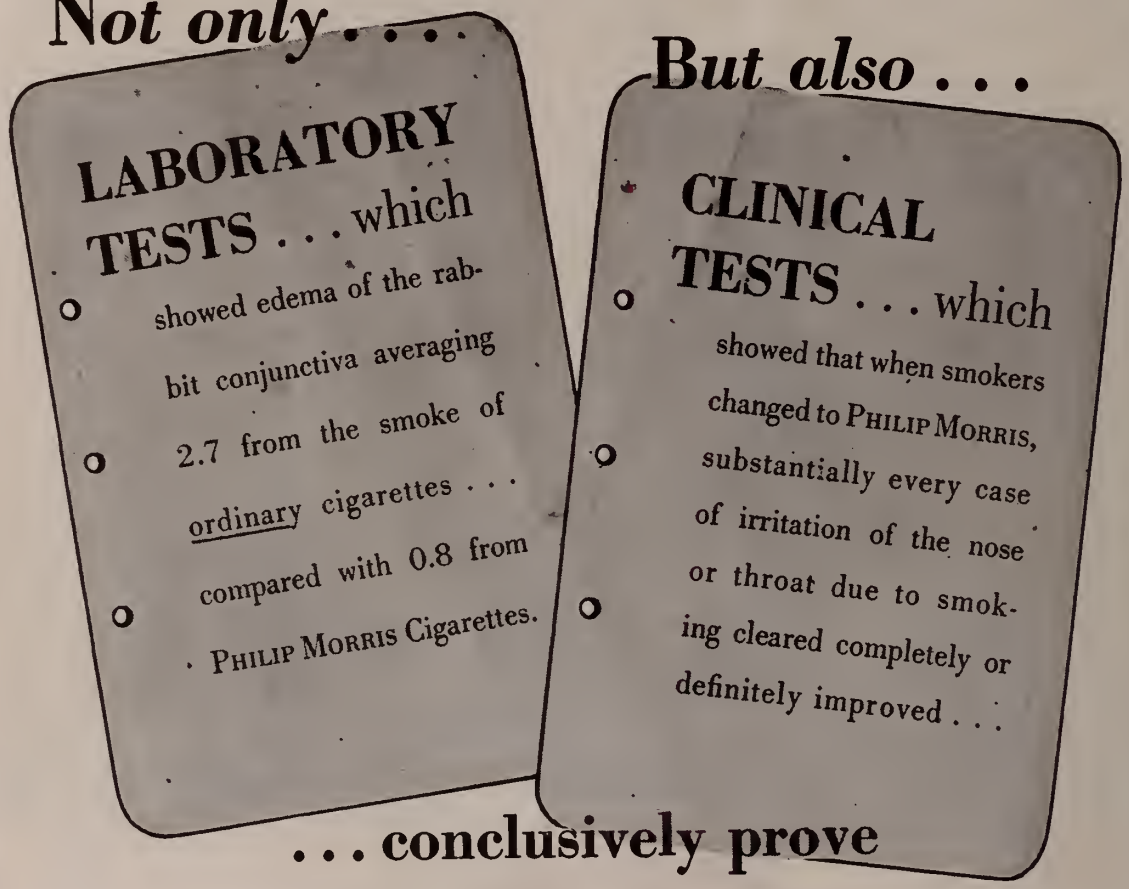
ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

*Tripoli, C. J.: The Sulfonamides in Internal Medicine, New Orleans Med. and Sur. Jl., 96:455-461 (April) 1944

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PHARMACEUTICAL AND BIOLOGICAL CHEMISTS

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to be definitely and measurably

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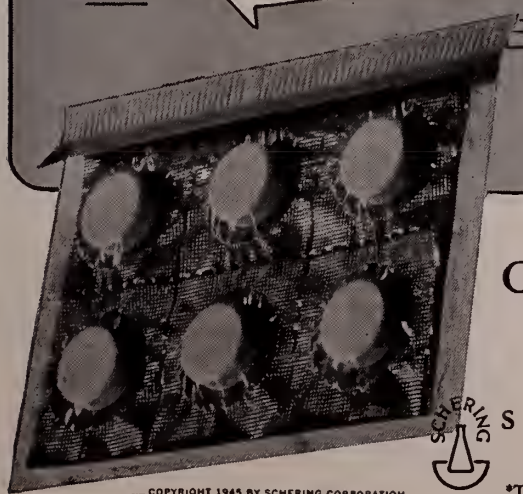
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3 is simple to administer . . . a single dose of six tablets is sufficient.

4 produces clear, dependable cholecystograms . . . contains 51.5 per cent of iodine, sufficient to produce adequate shadow density.

5 avoids the possibility of confusing intestinal shadows because it is rapidly absorbed from the small intestine . . . little, if any, reaching the colon.

6 does not require a complicated dietary regimen.



the *six tablet* contrast medium for

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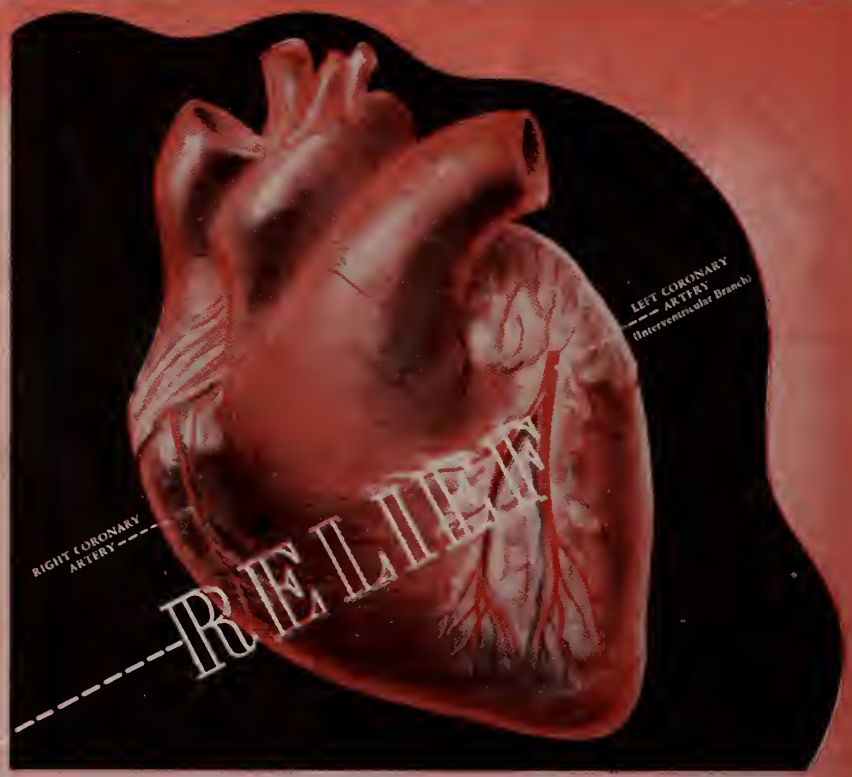
PRIODAX*, beta-(4-hydroxy-3, 5-diiodophenyl)-alpha-phenyl-propionic acid, is available in envelopes of six tablets, in boxes of 1, 5, 25 and 100 envelopes.

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For the cardiovascular patient, the magic word is "relief". This is usually enlisted through special care during the acute and subacute phases of attack.

Calpurate — a distinctive chemical combination of calcium theobromine and calcium gluconate — brings such strikingly effective relief in many manifestations of coronary disease that some physicians rate it by far the xanthine of choice.

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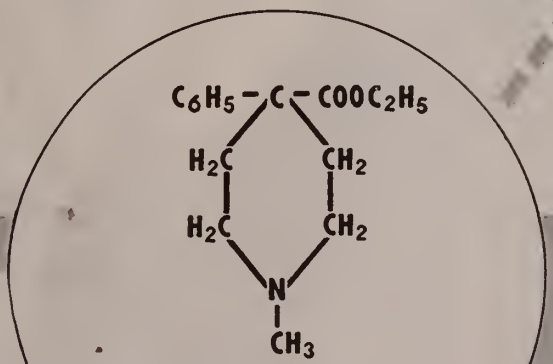
ALSO AVAILABLE with ¼ gr. phenobarbital added per tablet, when sedation is desired.

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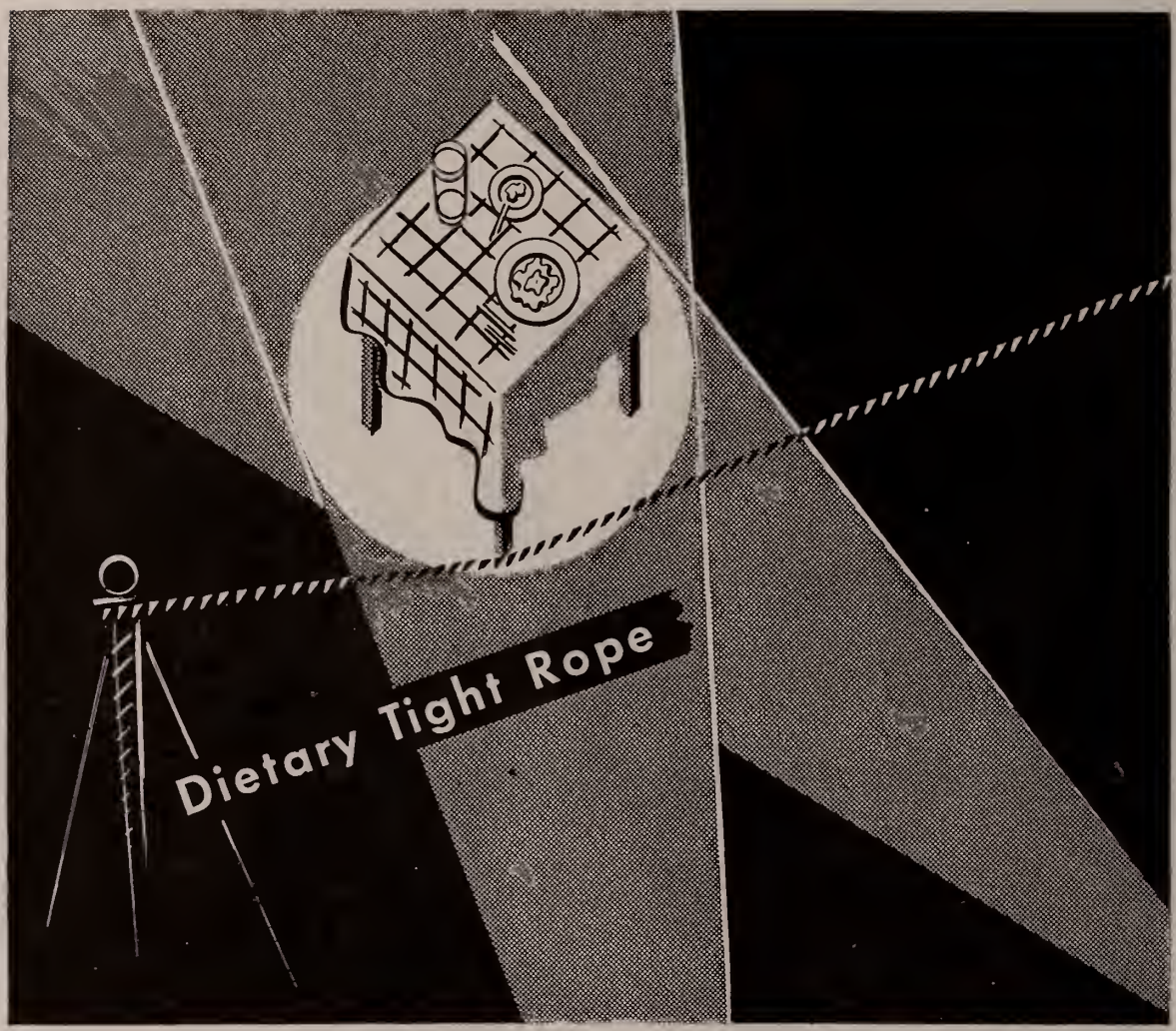
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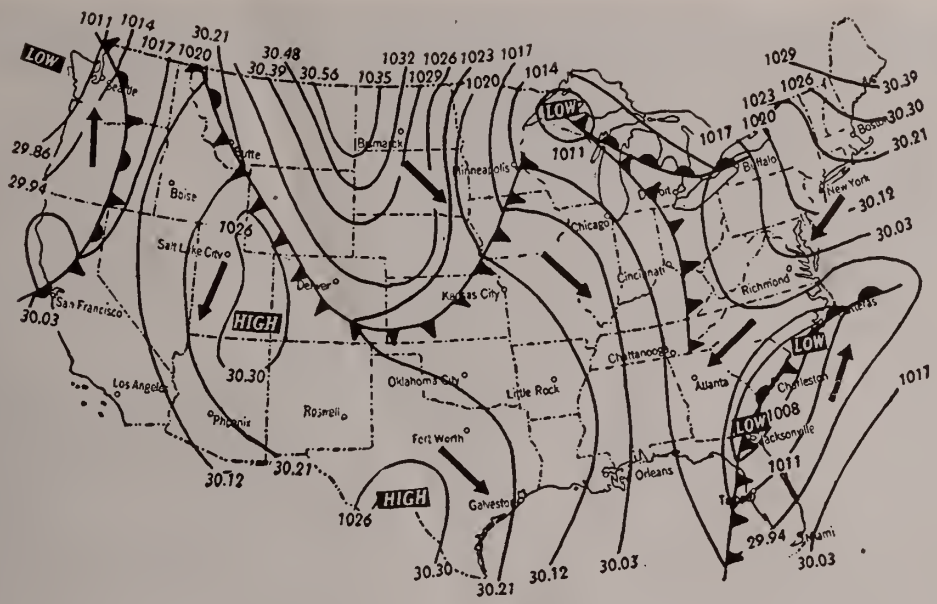
The restricted therapeutic diet in metabolic, allergic, cardiovascular, gastrointestinal, or renal disease may force patients to "walk the tight rope" of vitamin adequacy. Too often they lose their dietary balance, with the result that nutritional deficiency is superimposed on the primary disease.

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THERE never has been a wedding ring that would correctly fit the finger of all women . . . and there is no universal size of occlusive diaphragm that will correctly conform to the many variations of the vaginal and cervical structures.

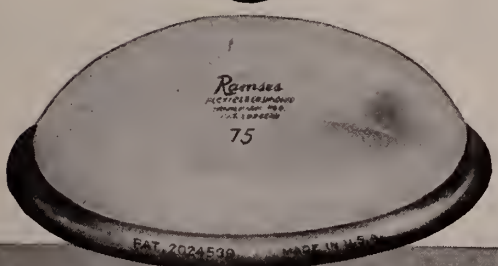
Competent clinical investigation has established that an occlusive diaphragm must be of individually correct size in order for the cervix to be properly protected against entrance of spermatozoa.

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FLEXIBLE CUSHIONED DIAPHRAGMS



are made in gradations of 5 millimeters in sizes ranging from 50 to 95 millimeters inclusive . . . available through any recognized pharmacy.

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VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

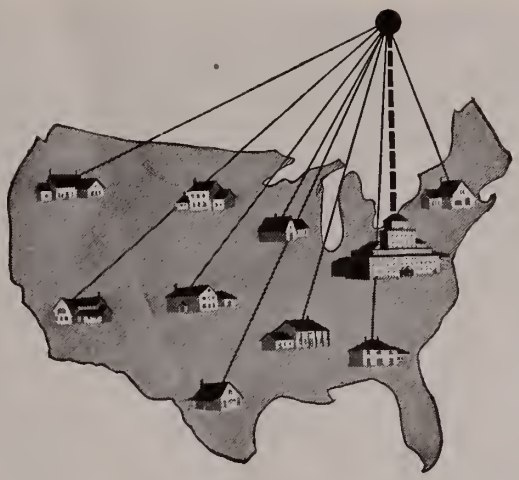
The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

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9 out of 10 cases of EPILEPSY are treated in the Home

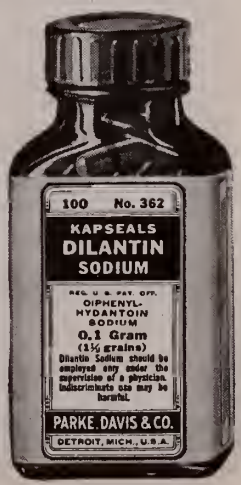


Of the more than a half-million persons in the United States who suffer from epilepsy, only about 50,000 are in public institutions.[1] Thus, about 90 per cent of the therapy of this disease rests on the shoulders of the physician in private practice.

Management of the epileptic in the home demands the use of therapeutic measures which will control seizures effectively, and favorably influence such psychological factors as make for better adjustment of the patient to family life, as well as to his association with others. The objective of the physician is to make it possible for the epileptic, adult or child, to live a normal life with his family.

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1. Tracy Putnam: Convulsive Seizures, p. 4, J. B. Lippincott Co., 1943.



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Diphenylhydantoin Sodium

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Detroit 32, Michigan



PENICILLIN CANNOT BE MADE IN A CRUCIBLE!

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IN CAPSULE FORM!

Another way to provide the *thorough* iron-plus-liver medication

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New Bepron Capsules, like liquid Bepron, help to insure quick return to normal blood levels. recovery is *lasting*, and effectiveness *is independent of the patient's diet.*

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Bepron Capsules are supplied in bottles of 100.

Wyeth Incorporated, Philadelphia.

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Gelatum Alumini Hydroxidi

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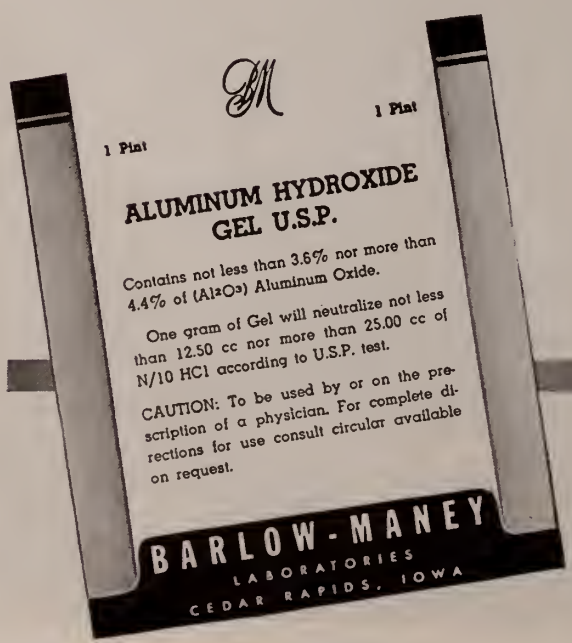
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THE value of Aluminum Hydroxide Gel as an aid in the management of gastric hyperacidity has been established by ample clinical evidence.

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LABORATORIES, INC.
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JOHNNY hadn't complained at all that day, although his nose had been a little stuffy. Tucked into bed at an early hour, he played for a while with his woolly dog, then sank into a fitful slumber.

Awakened in the middle of the night by incoherent mutterings, the alarmed parents hastened to the bedside. The family physician was called. Anxiously the diagnosis was awaited. When the examination was completed and the family assured that "Johnny will be all right in a few days," anxiety surrendered to supreme confidence. They have unlimited faith in the doctor's judgment.

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This Palatable Variety . . .

liver, heart, tongue, sandwich meat, bacon, bologna, frankfurters, liver sausage, salami, etc. . . . deserve dietary recognition not only for their high protein content but as good sources of the vitamins as well.* Their palatable taste, their availability, and their relatively reasonable cost merit frequent inclusion in the diet.

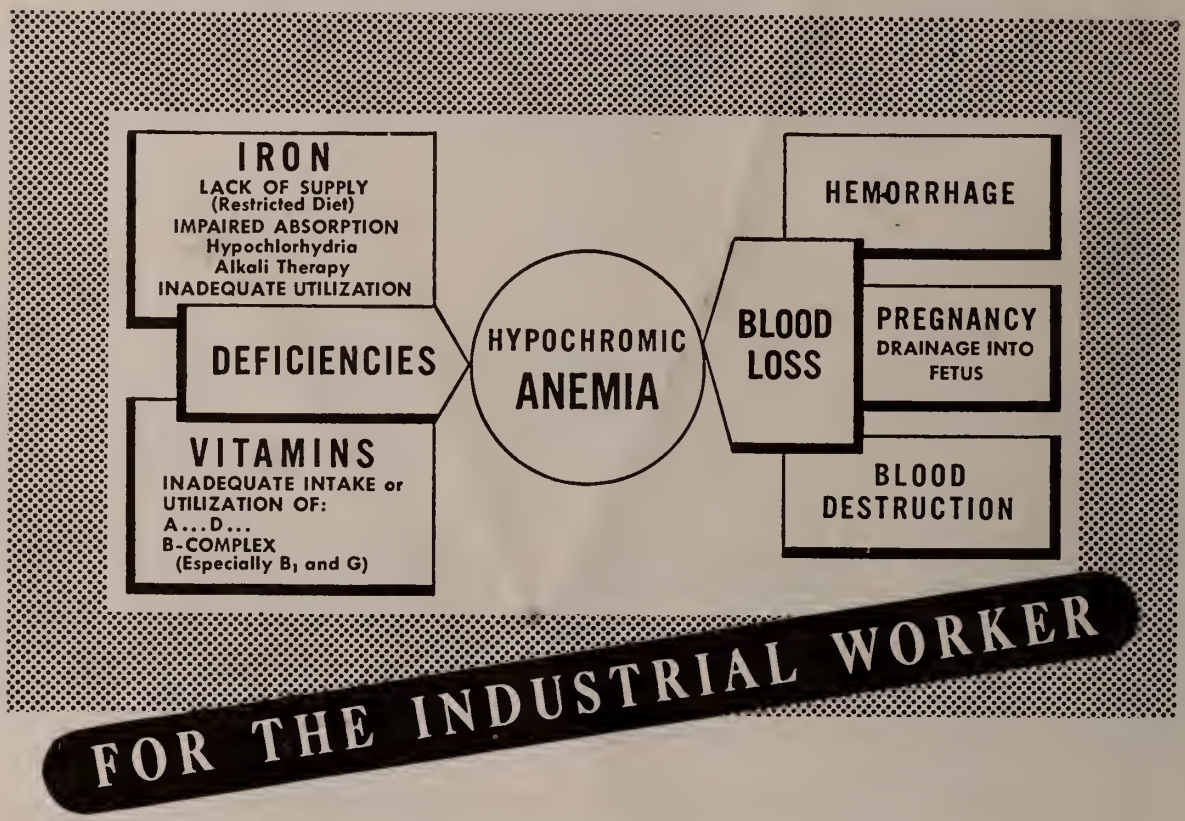
*"Canadian bacon, summer sausage, and sandwich meat contain larger amounts of thiamine than fresh beef, veal or lamb but smaller amounts than fresh pork . . . Of the fresh organ meats studied heart was found to be the richest in thiamine . . . Liver and tongue contained about the same amount of thiamine as muscle meat . . . Liver sausage contains nearly 3 or 4 times as much riboflavin as any of the other prepared meats . . . The other prepared meats fall in the same range as fresh muscle meats . . . The nicotinic acid contents of the prepared meats and fresh muscle meat are about the same . . ." (McIntire, J. M.; Schweigert, B. S.; Herbst, E. J., and Elvehjem, C. A.: Vitamin Content of Variety Meats, J. Nutrition 28:35, July 10, 1944).



The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES



The worker cannot be expected to deliver quality products if his tools are in impaired condition. Neither can he achieve maximum production if his physical status is below par.

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Heptuna provides all essential factors needed to restore not only the blood picture but the patient as well. Since this anemia usually is the result of multiple nutritional deficiencies, Heptuna proves particularly applicable.

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Vitamin A	5000 U.S.P. Units
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Vitamin D	500 U.S.P. Units
Vitamin G (0.50 mg.)	500 micrograms

together with liver concentrate (vitamin fraction), derived from 4 grams of fresh liver, and dried brewers' yeast.

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FOR PRE-NATAL AND NURSING



Spencer Maternity Breast Support



Spencer Nursing Breast Support

Each Spencer Breast Support for pre-natal wear, like *all* Spencer Supports, is *individually designed* for the one patient who is to wear it, to lift and hold breasts in natural, healthful position, without compression.

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The Spencer Breast Support for nursing mothers provides protection against caking and abscessing. Closes in front for nursing convenience.



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Spencer Sleeping Supports

are prescribed to continue day-time treatment during night hours. Protects breasts against crushing—aids breathing.

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..... M.D.

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SUPPORT FOR THE FAILING HEART... *Digalen 'Roche'*

"FIGHT INFANTILE PARALYSIS • JANUARY 14th—31st"

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The Illinois Medical Journal

January, 1945

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Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

MEDICAL PROGRESS MARCHES ON

The year which has just ended saw many new developments in medicine in all its branches. It would be most difficult for anyone to endeavor to list the ten most important developments of the year, and if a dozen well qualified individuals would submit their recommendations for the list, there would no doubt be some variance according to the specialty in which the physicians were personally interested.

One of the marvels of the past year, as in the preceding two years of war, has been the development of the Military Medical Corps and the marked improvement in both mortality and morbidity statistics. Under the present plan for caring for the casualties where they fall, then more careful attention at the first aid station and transportation by air immediately to base hospitals, we have developed an important factor in reducing mortality. The high type of physicians in the services likewise has been an important factor.

It is unquestionably true that never in the history of the world has any nation commissioned so many physicians in the medical corps as we have in the Army of the United States — some 60,000 in all, and each anxious and willing to do his part. Many physicians in service have lost their lives while caring for others who were sick or injured. Many have received special citations for unusual bravery while under fire thinking only of the life of the patient and giving but little consideration of their own safety.

The year 1944 has brought more information to us concerning the use of penicillin and it has been developed on such a large scale as to make a supply available for civilian use when definitely indicated. More has been learned relative to the indications as well as the limitations of this so-called miracle drug. Other preparations of a somewhat similar nature were also brought out during the year, or their values more definitely established.

More information has been made available concerning the value of the sulfonamides with perhaps more attention being paid to their discriminate use with additional warnings concerning the toxic effects as noted in some people. More attention than ever before has been given to the proper selection of the drug most effective for the individual case at hand, as well as the proper dosage.

During 1944 the story of DDT and its remarkable effectiveness against insects was told in much detail as well as the story of its effectiveness in checking a louse born typhus epidemic when dusted as a powder to delouse individuals. It has also aided so we are told, in the control of malaria.

Another important development of medical science during the past year was the transfusion of concentrated red blood cells which formerly were discarded in the processing of plasma. It has been shown that the red cells rapidly bring up the red blood cell count and hemoglobin in the blood stream saving much time in many cases of

marked anemia requiring surgery. It has been of much value in a number of other conditions.

The rapid cure of sulfa-resisting gonorrhea with penicillin within a few hours has been demonstrated repeatedly during recent months. It is quite probable that as soon as the supply of the drug is unlimited, it will be used extensively in the treatment of this disease.

A red blood cell paste salvaged from plasma processing was used successfully in the treatment of old infected burns, varicose ulcers and other similar conditions.

Although since the outbreak of the war millions of units of plasma have been sent to the various war fronts by air and have been of inestimable value in the saving of thousands of lives among the casualties of the war, an outstanding development in the last six months has been the daily transportation by air of whole blood. This blood is removed from the donor and taken to the front within a period of 24 hours. Probably at this time more than 750 pints daily are sent by air to the European battle fronts. Within recent weeks it was announced that whole blood is also transported by air from the United States to the South Pacific, and it is expected that the quantity of blood so shipped daily will be increased gradually during the coming months.

It has been established definitely within recent months that atabrine is as good as quinine in the control and treatment of malaria. It is now being made in practically unlimited quantities so that it can be made available anywhere it is needed on short notice.

These are only a few of the outstanding medical achievements of the past year. It is quite obvious to all that as war continues, research workers will continue to do everything possible to prolong human life, conserve manpower and do their part in the future improvements in mortality and morbidity statistics among the service men as well as those carrying on at home.

WHO IS PHYSICALLY FIT?

A considerable amount of comment has been noted recently in the press, in medical journals as well as at medical meetings in various parts of the country on physical fitness. There has

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been developed a National Committee on Physical Fitness which will make an intensive study of prevailing conditions in this country to see what can be done to remedy existing situations.

The large number of rejections of young men called before selective service examiners has no doubt been largely responsible for the demand that something be done to remedy the present situation. From many sources blame has been placed upon the medical profession for the high percentage of rejections. It is no doubt true that many young men have been rejected on account of certain remediable conditions, but this is no fault of the medical profession in most instances. There is no law which will permit a physician to perform corrective operations unless the individual or members of his family, desire and approve it.

Many of these defects found at examination are no doubt hereditary; others are due to dietary deficiencies, social diseases or perhaps some economic cause for which again, the physicians are not to blame. It has been difficult to set up definite standards for physical fitness which will be satisfactory for people in all walks of life. Likewise definite standards in regard to tests for physical fitness with the exception of perhaps two tests, are still in the controversial stage. The exceptions are the cardiovascular and respiratory tests. It is extremely difficult to set up definite standards to determine physical fitness through the ability of the individual to resist fatigue.

This week it was announced that all athletes who were formerly disqualified for service will be called in for reexamination. Perhaps many of those who were originally classified as 4-F, then resumed their duties as professional baseball or football players, or indulged in some other competitive sports requiring marked freedom from fatigue in their daily activities, will not be qualified for service. It is quite probable that a perforated ear drum was responsible for the disqualification of many of these athletes, or it may have been a cardiac lesion with a normally compensated heart which will permit considerable activity along certain lines, yet render the individual undesirable for the armed forces.

The statement has been made repeatedly that young men leaving college and entering some line of endeavor, deteriorate in physical fitness soon after their college career is ended. No doubt if this is true, a principal reason may be the fact that the regular routine of college life and training is discontinued, with a resulting change in habits, perhaps diet and other essentials, along with late hours and different types of relaxation, for the young man no longer in training.

Physical fitness naturally is dependent on age, occupation, and also sex, for the male is naturally more able to avoid fatigue through unusual strain than is the member of the gentler sex.

At the present time, with a lack of generally accepted standards to determine physical fitness, it is quite obvious that the work of the National Committee is going to be rather difficult, and will require the aid and assistance of the medical profession continually throughout the investigations which, we have been told, will be made in the near future.

SOCIAL HYGIENE DAY

The Ninth Annual Celebration of Social Hygiene Day will be observed throughout the country on February 7, 1945. Physicians have a special responsibility for the protection of health and the prevention of venereal diseases. Great gains have been made in recent years and we continue to advance, yet the battle is by no means won.

During 1943 a total of 861,000 cases of syphilis and gonorrhea were reported and this was 70% more then the combined total of reported cases of diphtheria, malaria, meningitis, pneumonia, poliomyelitis, scarlet fever, small pox, tuberculosis, typhoid, paratyphoid and typhus. Special campaigns are conducted each year to stamp out several of these diseases, such as tuberculosis, poliomyelitis, diphtheria and pneumonia, and it is quite obvious that we should not weaken in the efforts to get a further reduction of these serious diseases, but double our efforts to eradicate when possible, all diseases which can be eradicated, and at least further reduce the mortality and morbidity from all disease.

Medical Science has produced and perfected new drugs and medical research has found new methods to combat venereal diseases, and no one today is denied adequate treatment or diagnostic

facilities regardless of their financial condition. Since the subject of venereal diseases was first brought out in the open some ten years ago, there has been a marked reduction in their incidence, and likewise a marked lessening of manpower loss through these conditions so often disabling over some period of time.

Physicians can be of much service in this campaign not only through caring for the victims of the disease but by telling the story in plain understandable language to those with whom he associates, as well as in schools, before dinner clubs and other organizations found in every community.

ENDORSES INTENSIVE PREVENTIVE PROGRAM FOR BACILLARY DYSENTERY

In view of the addition to the population of returning military and civilian personnel, many of whom presumably will be carriers of bacillary dysentery, the recommendations of a Detroit physician for an intensified preventive program are particularly timely, *The Journal of the American Medical Association* for December 16 says.

The preventive program recommended by David J. Sandweiss, M.D., includes the more rigid examination of food handlers with the addition of routine stool cultures and more frequent follow-up examinations of all carriers.

The Journal explains that "The specific dysenteries and nonspecific diarrheas become a major problem in time of war. Military personnel are not alone involved, however; recently Sandweiss reported observations on 250 civilian patients in Detroit, each of whom had experienced an attack of nausea, vomiting, abdominal cramps and diarrhea. He differentiates the patients into five clinical groups, depending on the severity and duration of their symptoms. Cultures of the stools of 190 of the patients were taken in order to determine whether identifiable pathogenic organisms were responsible for the gastrointestinal symptoms. Twenty-five different strains of paradysentery or Salmonella organisms were isolated in 68 cases. Twenty-seven of the patients were infected with two or three different organisms. Two of the patients died.

"The outbreak was mild in character, but many of the patients continued to harbor pathogens in their stools for months after the acute episode had subsided. These persons were consequently a hazard as carriers, particularly when employed in food establishments.

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PAPERS FOR THE 1945 ANNUAL MEETING

Members of the Illinois State Medical Society desiring to present papers at the 1945 annual meeting to be held at the Palmer House May 15, 16, 17, 1945, should write to the chairman or secretary of the Section before which they desire to present the paper.

In addition to giving the title of the proposed paper, a short summary should be presented so that the Section Officer will be able to determine whether or not the paper will be acceptable.

At the 1945 meeting more time than ever before will be devoted to general or "Joint Sessions" with all sections participating, and the individual section meetings will be limited to one or two half-day meetings.

In order that members may know to whom they should send their request, we are listing the officers of all scientific sections so they may write or confer with the proper individual, avoiding confusion and unnecessary delay.

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ADVISE USE OF INTRAVENOUS THERAPY FOR ROCKY MOUNTAIN SPOTTED FEVER

Intravenous treatment of Rocky Mountain spotted fever, properly chosen, is not harmful, as it has been reported to be, but may prove life saving, George T. Harrell, M.D.; William Venning, M.D., and William A. Wolff, Ph.D., Winston-Salem, N. C., declare in *The Journal of the American Medical Association* for December 9.

Such treatment, they say, "should include plasma and whole blood in adequate quantities in addition to glucose, salts, vitamins and amino acids. . . ." Careful laboratory control, they warn, in choosing the type and quantity of fluids to be administered by injection or by mouth is important.

Rocky Mountain spotted fever, which has been reported with increasing frequency in other parts of the country, particularly in the Atlantic states, is a severe systemic disease which is transmitted by ticks. It is rarely diagnosed until a skin rash has appeared and no specific treatment agent is available which is effective after the third day of the rash.

The authors point out that injuries to blood vessels caused by the organisms of the disease produce physiologic changes similar to the shock caused by burns; thus their advice that the circulatory collapse be treated by such measures as the administration of plasma and whole blood.

In the same issue, *The Journal* points out that the conditions caused by typhus and Rocky Mountain spotted fever are strikingly similar and point to a recent report that para-aminobenzoic acid was found beneficial in the treatment of typhus. *The Journal* says:

"The fact that para-aminobenzoic acid may have curative effect in human as well as in mice typhus directs attention to many problems for investigation. What effect will para-aminobenzoic acid and related compounds have on Rocky Mountain spotted fever and other rickettsial diseases?"

Treatment and hospitalization is being given without charge to persons with cancer in Saskatchewan since May 1, 1944. The care of the tuberculous has been on this basis since 1929. News Item.

Medical Economics

The Medical Economics Committee — Chauncey C. Maher, Chmn., 6 North Michigan Avenue, Chicago, Edwin S. Hamilton, V. Thomas Austin, Emmet B. Bay, Jay McDonald Milligan, Jacob M. Mora, George Halperin, Marie Wessels, Thomas C. Browning, Roland R. Cross, Milton E. Bitter, Edwin F. Hirsch, Ford Hick, Lt. Col. MC, William J. Bryan, John R. Vonachen.

Traditionally, a new committee should formally announce the roster of its membership and present an indication of its scope of activity for the oncoming calendar year. The physicians listed above have generously agreed to accept the responsibility of membership in this group and to contribute their energy and their time to be taken from an already overburdened schedule of practice.

It is no less traditional that the new committee should pay just tribute to the work of its predecessors who have served in a similar capacity. Dr. Charles J. Whalen edited the Illinois Medical Journal for over twenty-five years. As a part of his work in that capacity, many of his editorials were on the subject of medical economics. The State Society in 1934 felt the problem was of such particular importance that Dr. Edwin S. Hamilton was officially delegated to edit the subject matter, and for a decade he ably performed that duty.

The last Medical Economics Committee served three years under the leadership of Dr. Rollo K. Packard. His many contributions to the state and local societies are common knowledge to all members. His indefatigable work in the National Physicians Committee has brought great accomplishments in the field of medical economics. Unfortunately, illness has temporarily slowed his activities.

The new committee hopes to work with the same vigor and serve the society as ably as its predecessors. Many problems are the same as in former years, and new ones will appear. We are engaged in a World War with more than 4,100 of the members of our State Society in the armed forces. In the post-war era there may be critical changes in the character of medical practice.

When the art and practice of medicine was acquired by apprenticeship and practice thereafter confined to a limited community, the economic problems were circumscribed largely to the small geographic area involved. Today the profession is organized locally and nationally and is concerned individually and collectively with medical activities in every part of our country. Medical practice in foreign countries may also influence us.

Our medical economy is concerned with the selection of college undergraduates who will enter medical schools. Their formal medical education is another phase of the problem, and includes interneships, and residencies for specialized training. In former years, general practice was the rule in either urban or rural communities. In the last decade, the number of specialists has rapidly increased, practicing as individuals or in groups. The group may form a small clinic or large institution. Other types of practice include the fields of public health, industrial medicine and surgery, army or navy medicine, full-time university teaching, research, insurance, pharmaceutical directorship, or hospital administration.

This diversification of the practice of medicine has evolved gradually over the years. What seemed good has grown and prospered, and the unworthy has failed under the natural laws of competition, supply and demand.

Today, we are faced with the important question related to medical economy as to whether this growth in medical practice shall continue as it has under the jurisdiction of the profession, or whether fundamental changes shall be im-

(*Continued on page* 12)

Correspondence

Medical Meetings Cancelled

Complying with the government's request not to hold national meetings, the following have been cancelled:

A.M.A. Meeting, which was to have been held in Philadelphia, Pa., June 18 to 22,

Second Annual Clinical Conference of the Chicago Medical Society scheduled for February 27, 28 and March 1 in Chicago,

National Conference on Medical Service which was to have been held in Chicago on February 11,

Midwest Conference on Rehabilitation, scheduled for February 12 in Chicago,

Chicago Dental Society Mid-Winter Conference which was to have been held in Chicago February 12 to 15, and

American Hospital Association, February 9 and 10.

At the time of going to press, no decision has been made concerning our own Annual Meeting.

REPORT PENICILLIN X EFFECTIVE IN TREATMENT OF GONORRHEA

A Single Injection Of A New Variety Of The Drug Cured 64 Of 68 Patients Treated, Four Washington Investigators Say

The successful treatment of gonorrhea with a single injection of penicillin X, a new variety of the drug, is reported in *The Journal of the American Medical Association* for December 16 by Henry Welch, Ph.D., Lawrence E. Putnam, M.D., William A. Randall, Ph.D., and Robert P. Herwick, M.D., Washington, D. C.

As the four investigators point out, this parallels a recent report that gonorrhea had been successfully treated with single injections of regular or commercial penicillin incorporated in a beeswax-peanut oil base. In their study the Washington men treated 68 patients with gonorrhea, most of whom were sulfonamide resistant, by a single intramuscular injection of 25,000 units of penicillin X.

"The group consisted," they say, "of 35 males and 33 females. Our criterion of cure was three negative cultures obtained one, three and five days after treatment had been completed, although in some cases, because of menses or other factors, cultures were taken at greater intervals and over a longer period of time.

"Sixty-four patients, or approximately 94 per cent of those treated, were cured. For comparative purposes a group of 58 patients with gonorrhea (31 males and 27 females) were treated with a single intramuscular injection of 25,000 units of commercial penicillin. Using the same criterion, 37 patients, or approximately 64 per cent of those treated, were cured. It is of interest that 3 of the patients in whom we failed to obtain a cure with commercial penicillin were cured by a subsequent treatment with a single injection of 25,000 units of penicillin X. . . ."

Studies of the blood concentrations of the drug were made on 7 patients treated with penicillin X and on 8 treated with commercial penicillin. These concentrations were determined one-half hour, one hour and two hours following intramuscular injections. During the first two hours after treatment, a consistently higher concentration of penicillin X was maintained in the blood. Studies of the excretion of the drug in the urine were made over a period of eight hours on 9 patients, 4 treated with penicillin X and 5 with commercial penicillin. During the first two hour period 59 per cent of the penicillin X injected was excreted, as compared with 68 per cent of commercial penicillin. After eight hours the total excretion of penicillin X was 71 per cent as compared with 80 per cent of commercial penicillin.

"Further studies," the four men say, "are in progress using larger doses of penicillin X in a single intramuscular injection to determine its efficacy and rate of excretion at higher levels.

"Although the number of cases reported here is small, if further work substantiates the fact that a large proportion of cases of gonorrhea can be cured with a single intramuscular injection of penicillin X, the public health control of this disease, which has been materially affected by the use of commercial penicillin, will be further facilitated."

NEED OF SOUND MEDICAL CARE STUDIES REVEALED BY SURVEY

Journal Points Out Baltimore Study Showed Chronic Disease Patients Had Three Times As Much Medical Care As Others

Discussing a survey of a section of Baltimore which revealed that patients with chronic disease had from three to four times as much medical care as did the other members of their families and the general population studied, *The Journal of the American Medical Association* for December 16 points out that "This interesting report again emphasizes the necessity for sound fundamental studies of the need for and cost of medical care in differently constituted groups. A large part of the medical care problem is the control of housing, diet and other environmental factors which affect the development of chronic diseases. From the information presented it could be deduced that any plan to spread the cost of medical care over the entire population studied would mean that a comparatively small group and one perhaps especially liable to chronic illness would receive a disproportionate share of the benefits."

The Journal says that "The Eastern Health District of Baltimore, which comprises two city wards containing about 11,000 white families and 2,800 colored households, was chosen for a five year survey of chronic illness. This was considered reasonably representative of the type of locality in which an urban wage earning population lives. The following chronic diseases were included: manifest mental disorders, psychoneuroses, psychopathic and personality or behavior disorders; heart disease or hypertension; arthritis; diabetes; varicose veins; gallbladder disease; peptic ulcer; chronic nephritis; cancer; rheumatic fever; tuberculosis, and syphilis. Out of each thousand persons in the population of 5 years of age and older there were 32 cases of hypertension or heart disease, 18 cases of manifest and subclinical mental disorders, 16 cases of arthritis, 7 cases of rheumatic fever, 6 cases of diabetes and 11 cases of other chronic conditions. This resulted in a total prevalence of these chronic illnesses of 90 per thousand of population. Families chosen because of a case of chronic disease showed an excess rate of illness among its members as compared with the other family groups. The rate of physician visits for these patients with chronic disease was 2,375 per thousand of population, or slightly more than two visits per person annually. The rate of clinic visits was 1,517 per thousand, giving a total of about four visits per thousand annually.

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ILLINOIS MEDICAL JOURNAL

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Medicine's Role in the War Effort

ARMY NURSE SHORTAGE GRAVE

Major Gen. Norman T. Kirk, Surgeon General of the Army, recently disclosed the seriousness of the present shortage of army nurses at a ceremony in which Col. Florence Blanchfield, superintendent of the Army Nurse Corps, accepted an oil portrait of an army nurse painted by a soldier in an effort to promote nurse recruiting. General Kirk stated that the shortage of nurses in the Army is acute and is growing more so every day. He said that 40,000 civilian registered nurses in the United States who are eligible for service in the Army Nurse Corps may have been "lulled by the false impression that is prevalent in certain quarters that the war in Europe is practically over."

The painting, presented to Colonel Blanchfield by Private Rudolf Bernatschke of the Recruiting Publicity Bureau, U. S. Army, has already been made into a poster in the current drive to obtain 10,000 more army nurses. The painting depicts a blue eyed, blonde second lieutenant of the Army Nurse Corps in bold relief, with an ambulance in the background. The poster, which has been distributed throughout the nation by the Recruiting Publicity Bureau, emphasizes that "Nurses Are Needed Now!" and carries the message "If you are a registered nurse and not yet 45 years of age apply to the Surgeon General, United States Army, Washington 25, D. C., or to any Red Cross procurement office."

★ ★

BAL IN OIL IN TREATMENT OF SEVERE MAPHARSEN REACTIONS

War Department Technical Bulletin of Medicine 104, dated October 12, announced the availability of a new drug, bal in oil, for use in the treatment of severe mapharsen reactions. Bal in oil is packaged in sterile ampules containing 500 mg. of bal in 5 cc. (10 per cent solution) of injectable material for intramuscular use only. It is stable when stored at ordinary temperatures. The bulletin discusses the selection of cases, the recommended dosage and reactions from bal in oil.

NAVY ESTABLISHES FILARIASIS REGISTRY

A filariasis registry was recently established by the Bureau of Medicine and Surgery at Marine Barracks, Klamath Falls, Ore., which is the reconditioning center for Marines returned to the United States from the Pacific because of malaria or filariasis.

The purpose of the registry is to make and keep a record in a central place of all Navy and Marine Corps personnel having a diagnosis of filariasis. Establishment of this centralized record keeping system will facilitate keeping filariasis patients under surveillance as long as they are on active duty. The information obtained will also make it easier to evaluate the extent of the problem presented by the disease and make possible an adequate follow-up system for effective handling of patients. All naval stations in the United States have been directed to examine health records so that if an entry of filariasis has been made for any individual the data can be forwarded promptly to Klamath Falls.

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AID FOR BLIND VETERANS

Veterans Administration regulations issued recently, under authority of recently enacted legislation which permits seeing eye dogs to be furnished to blind veterans, stated that such veterans may be furnished the necessary travel expenses to and from their places of residence to the point where adjustment to the see-eye or guide dog is available. Meals and lodging during the period of adjustment will be provided in cases in which the veteran has to be away from his usual place of residence during the period of adjustment. In addition, mechanical and electronic equipment considered as aiding in overcoming the handicap of blindness may also be supplied, the regulations state.

★ ★

VETERANS REHABILITATION CENTER

The Veterans Rehabilitation Center (2449 West Washington Boulevard, Chicago), operated jointly by the Department of Public Welfare, State of Illinois, and the Illinois Veterans' Service Inc., was formally dedicated November 3. The center has been receiving World War II veterans for treatment of selected

psychiatric disorders since Sept. 11, 1944. The existing floor plan of the Washington Boulevard Hospital was utilized; operating rooms, wards, more desirable single rooms and adjoining hospital grounds were equipped and refurnished for use as arts and crafts rooms, recreational rooms, drama rooms, music rooms, gymnasium and gymnasium grounds.

All projects are under the supervision of full time specialists, who are assisted by qualified volunteers. The present treatment capacity of the center is 100 patients, which may easily be expanded to twice that number by slight increases in specialist personnel. Thirty beds are available for those veterans requiring psychiatric nursing supervision. It is anticipated that the majority of the veterans under treatment will live in their own homes or in suitable living quarters provided for them outside the center.

The psychiatric staff of the center consists of Dr. Alfred P. Solomon, clinical director, Dr. Thomas L. Fentress, associate clinical director, Dr. David Slight, professor of psychiatry at the University of Chicago, Dr. Clarence Neymann, professor of psychiatry at Northwestern University Medical School, and Dr. Morris Braude, associate professor of psychiatry at the University of Illinois College of Medicine. The clinical director works in close cooperation with Dr. Conrad Sommer, deputy director of mental hygiene, Department of Public Welfare, State of Illinois. Dr. Sommer was responsible for the development of the initial plans for the center.

★ ★

PENSIONS FOR WIDOWS AND CHILDREN OF FIRST WORLD WAR VETERANS

President Roosevelt has signed the bill providing pensions for widows and children of deceased veterans of the first world war. The cost is estimated at $37,000,000 in its first year. The program provides benefits up to $74 a month for families of men who served in the first world war. Pensions are provided regardless of the cause of death. Previously pensions were allowed widows and children only if the veteran died of war service disability and if he died of some other cause but had been disabled in the war. Widows without children will get $35 a month, with one child $45 and $5 for each additional child. The child of a deceased veteran whose mother also is dead will get $18, two orphans will receive $27, three will get $36, and $4 is provided for each additional orphan. Veterans must have served at least ninety days for families to become eligible.

★ ★

MEN NOW IN ARMY TO CONTINUE COLLEGE COURSES AFTER WAR

Although the percentage of medical students is not given, figures released by the War Department for publication as of December 20 reveal that 500,000 of approximately 6,750,000 men now in the Army have definite plans to return to full time school or college courses. The Information and Education Division of the Army Service Forces bases the figure on a cross section survey of troops in the United States and overseas. An additional 300,000 are seriously considering resuming their education on a full time basis but are undecided or have conflicting job plans. Still another 1,200,000 men intend to attend part time school or college. Governing factors are the length of the war and prevailing economic conditions. No indication is given as to how anticipated resumption of studies will affect the flow of graduates from medical schools, although it is stated unofficially that most young men whose medical courses were interrupted will probably wish to resume their studies toward a medical career.

★ ★

FIRST WHOLE BLOOD BANK ABOARD SHIP

In the past the distances that lay between advanced bases and new combat areas had eliminated the transportation of whole blood by sea. With this knowledge Capt. John T. Bennett, United States Navy Medical Corps, Hattiesburg, Miss., made a decision that was to save many lives. That decision created the first known blood bank to be water borne to the fighting front aboard a hospital ship. Success of this experiment depended on the ability of living blood to survive disturbances created by vibrating ship's engines and the rolling and pitching of the ship. It was known that ashore, under proper conditions, whole blood could be kept as long as ten days. With the desicion made, the commanding officer of shore garrisoned Marines at an advanced base in the Marshall Islands, where the ship lay at anchor, was consulted. The medical officer asked for 100 volunteers. Over 300 men from the small Marine garrison responded. One hundred were selected, came aboard, gave their blood and assured a rich floating blood bank. The following morning the ship was under way with her precious cargo and anxious hopes for the success of the experiment. The success of their efforts can now be seen. American fighting men who came aboard seriously wounded took the road to recovery. At Guam there was ample whole blood for required transfusions. No wounded fighting man went without whole blood if it was required.

★ ★

BRONZE STAR AWARDED CAPTAIN ELMER G. LAMPERT

Capt. Elmer G. Lampert, formerly of Wheaton, Ill., has been awarded the Bronze Star Medal for "action outside the line of duty" in the European theater. Dr. Lampert was in the Netherlands the last time he wrote his family. He graduated from Loyola University School of Medicine, Chicago, in 1940 and entered the service Aug. 25, 1941.

★ ★

U. S. CADET NURSE CORPS

Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, Federal Security Agency, recently announced that approximately 30,000 new student nurses have enrolled in the U. S. Cadet Nurse Corps this fall. This is in addition to the 65,521 new student nurses admitted to the nation's nursing schools during the first year of the corps, which ended June 30, 1944. The Cadet Nurse Corps recruitment quota

for the twelve month period ending June 30, 1945 is 60,000 new student nurses. It is estimated that a total of 40,000 student nurses will have been enrolled between July 1, 1944 and Jan. 1, 1945, so that the opportunity still awaits 20,000 qualified young women to join the corps when spring classes start, soon after the first of the year.

★ ★

COLONEL ROWNTREE GIVEN SCROLL OF HONOR

Col. Leonard G. Rowntree, chief of the Medical Division of the Selective Service received a scroll of honor recently by the New York State Committee on Physical Fitness. The scroll praised Colonel Rowntree for his "interest, understanding and efforts in behalf of the physical fitness of a nation at war and the welfare of the youth of the future."

★ ★

DOCTORS ASKED TO AID ITALY

Prof. Arturo Castiglioni of Yale University School of Medicine, New Haven, Conn., is organizing the doctors of America into a unit to aid the needy people of liberated Italy with surgical instruments and medical supplies, American Relief for Italy, Inc., recently announced. Gifts donated by doctors will be shipped overseas through the agency, a member of the National War Fund.

★ ★

RED CROSS WOMEN ON SHIPS

The first American Red Cross women assigned to Navy hospital ships will sail soon aboard the *Refuge,* marking the beginning of a new service requested by the Navy. Red Cross workers formerly have been assigned only to Army hospital ships which give medical care and treatment while transporting patients overseas. The two Red Cross hospital workers who will sail on the *Refuge* are Miss Leona McGowan of South Clinton, Iowa, in charge of Red Cross work on the ship, and Miss Katherine Bush of Santa Monica, Calif., who will assist her. Both have been serving in Red Cross domestic hospital units.

★ ★

QUOTA RESTRICTIONS OF MEDICAL X-RAY EQUIPMENT FOR CIVILIANS

The X-Ray Industry Advisory Committee was recently informed by the War Production Board representatives that the present quota restrictions on the manufacture of medical x-ray equipment for civilian use cannot be lifted until certain components become less critical. Components used in the manufacture of x-ray equipment are also needed for combat equipment, and there appears to be little likelihood that military demand for these components — including fractional horsepower motors, shock proof cable, small transformers, meters, capacitators and resistors — will decrease sufficiently to justify removal of quota restrictions until after "victory in Europe."

A manufacturer's shipment of medical x-ray equipment for civilian use is limited to 75 per cent of his average annual shipments during 1937, 1938 and 1939, figured on the basis of dollar value. This quota applies only to shipments within the United States, to its possessions and territories and to Canada.

★ ★

WISCONSIN VETERANS' HOSPITAL

It was reported recently that 300 acres of ground and school facilities at Tomah, Wis., will be turned over to the Veterans Administration for use as a Veterans Neuropsychiatric Hospital. The Army has discontinued operation of a military radio school there and negotiations have been under way for some time for the transfer to the Veterans Administration. The Veterans Administration announced that it plans to build a $4,880,000 1,328 bed neuropsychiatric hospital on the site. The hospital will serve southern Wisconsin, eastern Iowa and northern Illinois.

★ ★

AIR SHIPMENTS OF RED CROSS MEDICINES TO CHINA ESTABLISH NEW RECORD

Air shipments of medicine into China set a new record in September, with 44 tons flown over the Himalaya Mountains from India, according to Basil O'Connor, chairman of the American Red Cross. The original Red Cross program of medicines for China called for shipment of 10 tons per month, but increased need of drugs and medicines and added flying facilities have led to an increase that will provide 40 to 50 tons a month. September shipments were of particular importance, since they were made up largely of sulfonamide drugs, some of which were flown immediately into an area where there had been outbreaks of plague. Medical shipments are sent to Calcutta, shipped overland to the Assam air fields and flown from there into China.

MEDICAL ECONOMICS (Cont.)

posed politically by minority medical groups or laymen upon theoretical premises.

This committee hopes to acquaint you with objective information about our present selection and training of physicians, methods of medical practice, private and governmental institutions (particularly in our state) and to present to the readers the new current opinions, suggesting changes in that economy.

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago 2, Illinois enclosing label from a copy showing your old address. Changes received after the 1st of the month will not go into effect until the following month.

Original Articles

SULFAMERAZINE

A Clinical Study of 200 Pneumonia Patients

ITALO F. VOLINI, M.D.
GERTRUDE M. ENGBRING, M.D.
HILDEGARDE A. SCHORSCH, M.D.

Increasing effectiveness with decreased toxicity, or results without risks, is the goal in the search for the perfect sulfonamide derivative. To date, sulfadiazine is accepted as the drug of choice. This selection, however, is based on its comparative relationship to its predecessors in the field, sulfanilamide, sulfapyridine, and sulfathiazole.

Among the newer compounds claiming attention is sulfamerazine (2 sulfanilamide — 4 methylpyrimidine), one of the several methyl homologues of sulfadiazine. It was first described by Robbin et al. Their studies, as well as the more extensive chemical and experimental investigations by Welch and his associates who used various laboratory animals and humans, demonstrated very definite results. These results were evaluated in comparison with control studies on sulfadiazine. Goodwin, Peterson and Finland further extended the clinical pharmacology. Flippin and his associates reported studies on the absorption, distribution and excretion of sulfamerazine as well as the clinical use of the drug. Clinical reports are in the recent medical literature by Flippin and Reinhold, Hall and Spink, Hageman et al, Lepper et al, Anderson, Oliver and Keefer, covering a wide range of employment of sulfamerazine in various infections.

From the Loyola University School of Medicine and Cook County Hospital, Chicago, Illinois. With the Technical Assistance of Kathleen O'Donnell B.S. Read before Section on Medicine of Ill. State Med. Soc., Chicago, May 16, 1944.

Experimental Studies: Using sulfamerazine, the following studies were made at Cook County Hospital from June, 1943 to April, 1944. As a supply of the drug was not continuously available, sulfadiazine and sulfamethazine were utilized at times and may be considered the controls, the comparative results to be reported later. The experimental work included observations on the absorption, distribution and excretion of the drug. On patients without acute infections, studies were made following single oral, I. V. and subcutaneous doses of variable amounts. Following oral administration maximum levels were obtained in 4-6 hours. As others have observed sulfamerazine is rapidly absorbed, slowly excreted and has a lower percentage of acetylation than the other sulfonamides. The clinical application is naturally, lower dosage, less frequent administration and lower total amounts of drug.

Clinical Studies: The clinical studies report the therapeutic result and toxic reactions in 200 cases of pneumonia of variable etiology. The method included routine sputum typing, sputum cultures when negative on direct examination, complete blood counts, urine analysis and blood chemistry on admission, and icteric index when indicated. Due to reduced personnel and materials blood cultures and X-rays could not be obtained on all patients. Blood drug levels, free and total were estimated on most cases at least once and daily when the response was delayed. At the same time a WBC was made and a urine analysis for pH, specific gravity, crystalluria and blood was done. We have considered specific gravity of the urine as our guide for adequate fluid output and have aimed to keep

this below 1.015 to prevent renal reactions. This is equally informative and is a much simpler method than the time consuming accurate record of fluid intake and output, an important factor in these days of shortages. A daily intake of 3000 cc. was encouraged.

Utilizing the experimental observations, the following schedules were employed: an initial 4 gm. dose followed by 1 gm. q 4 hr., and an initial 3 gms. followed by 1 gm. q 6 hr. and 8 hr. In most instances the drug was continued for 48 afebrile hours. The sodium salt of sulfamerazine was employed in a 5% solution of sterile distilled water or a 2.5% solution of saline when indicated. Alkalies were not used.

Supportive and symptomatic therapy was used as indicated. Undoubtedly some of these patients had chemotherapy before admission. To our knowledge there were 12 of these, the type and amount usually not known. These patients were given the same initial dose of sulfamerazine as the others. Type specific serum was given in 2 cases and 1 received penicillin who had Pneumococcic Meningitis. These 3 cases all succumbed. Each case was seen by one or more of the authors daily and all the special laboratory work was done by the same technician.

TABLE 1.

Blood Concentrations on Different Dosage Schedules

	Average Level	High Level	Low Level	Extreme Range
Schedule I. 4 gm. initial dose and 1 gm. q 4 hrs.				
Free	13.1	26.8	6.1	11.7
Total	16.0	30.5	7.0	24.2
Schedule II. 3 gm. initial dose and 1 gm. q 6 hrs.				
Free	11.7	20.5	4.8	15.7
Total	14.5	23.4	5.1	33.3
Schedule III. 3 gm. initial dose and 1 gm. q 8 hrs.				
Free	8.9	14.8	3.0	3.0
Total	10.2	15.6	4.9	6.1

As is generally accepted, a blood concentration of 8-10 mg./100 cc. was considered therapeutically effective. Table 1 summarizes the average concentration obtained on the different dosage schedules. On the 8 hour schedule this value was 8.9 mg. percent.

Table II. illustrated the total amounts of the drug used. Approximately 45% less of the drug is required on the 8 hr. schedule.

TABLE 2.

Total Amount of the Drug (gms.) Used on Different Dosage Schedules.

Schedule	I	II	III
Average	30.5	21.4	17
Maximum	49	28	27
Minimum	18	16	10

TABLE 3.

Distribution of 200 Cases

Bacterial Pneumonias	Cases	Fatal	% Mortality	% Incidence
Pneumococcus	95	10	10.5	47.5
Typed	90	10	11.1	45.0
Non-typed	5			2.5
Streptococcus Viridans	4	3	75.0	2.0
3 bacteremic (fatal)				
1 sputum culture				
Friedlander's Bacillus	2	1	50.0	1.0
1 not typed (fatal)				
1 Type A				
Staphylococcus	2	1	50.0	1.0
1 Bacteremia (fatal)				
1 Sputum culture				
Pneumonias of Undetermined Clinical Etiology	78	6	7.7	39.0
Pneumonias with No Etiological Workup	19	1	5.2	9.5
Total	200	22	11.0	
Fatal within 24 hrs.		3		
Pneumococcic		1		
Streptococcus Viridans		1		
Friedlander's		1		
Corrected Mortality		19	9.5	

Clinical Results: Table 3 summarizes the distribution of the 200 cases. Ninety of these (45%) were typed pneumococcic pneumonias. The remainder of the bacterial cases included four Streptococcus Viridans pneumonias. Three of these had positive blood cultures, all of which were fatal. The fourth was diagnosed on sputum culture and made an uneventful recovery. Of the two Friedlander infections, one Type A recovered from the acute phase and after 5 months developed a lung abscess which was surgically treated, and is now in the hospital recovering. Sputum cultures are still positive for Friedlander's A. Pneumonia in this patient followed trauma to the chest, the initial diagnosis being fractured rib. This raises the question whether this patient was a carrier in whom trauma precipitated the infection. The fatal Staphylococcus aureus pneumonia had a bacteremia and a hemorrhagic diathesis on admission. The recovered case was diagnosed on a positive sputum culture.

On 78 cases (39%) no clinical etiology was determined. The mortality in this group was 7.7% as compared with 10% in the typed pneumococcic and 11.3% in the whole bacterial

group. In estimating mortality a correction was made deducting those cases fatal within 24 hours of admission. Corrected mortality in the entire series is 9.5% as compared with 9.7% in 383 cases of pneumonia treated with sulfadiazine and 9.7% in 271 sulfathiazole cases in the 1942-1943 season.

TABLE 4.
Distribution of Typed Cases

Type	No. of cases	Fatal	% Mortality	% Incidence	Bacteremia
I	15	1	6.6	16.6	
II	12	1	8.3	13.3	
III	11	3	27.2	12.2	1
IV	11	1	9.1	12.2	3-1 fatal
V	9	1	11.1	10.0	1
VII	16	1	6.2	17.7	
VIII	8	1	12.5	8.9	
IX	1			1.1	
XIV	2			2.2	
XVIII	1			1.1	
XXI	1			1.1	
XXII	1			1.1	
XXXIII	1			1.1	
13-19		15	1	6.6	7.5
Total	90	10	11.1	45.0	
Fatal within 24 hrs.		1			
Correct Mortality		9	10.0		

*Routine blood cultures not taken.

Table 4 illustrates the 90 typed pneumococcic pneumonias. Eighty-four of these (82.2%) were of the more serious types indicating the severity of the disease this season and accounting for the high mortality (10%). Type VII predominated with Type III showing the highest mortality. In Keefer's series there were no type VII.

TABLE 5.
Analysis According to Age, Sex and Race Distribution

Age Group (yrs.)	Cases	Fatal	% Mortality	% Incidence
13-19	15	1	6.6	7.5
20-29	26	1	3.8	13.0
30-39	44	2	4.5	21.0
40-49	51	7	13.7	25.0
50-59	39	8	20.5	19.5
60-69	17	2	11.8	8.5
70-82	8	1	12.5	4.0
Total	200	22	11.0	
Fatal within 24 hrs.		3		
Corrected mortality		19	9.5	
Total over 40 yrs.	115		58.5	58.5
Sex Distribution				
Males	147	17	11.6	73.5
Females	53	5	9.4	26.5
Race Distribution				
White	89	15	16.8	44.5
Colored	110	6	5.4	55.0
Indian	1	1	100.0	0.5

TABLE 6.
Analysis According to Day of Disease on Which Treatment Was Begun

Day Rx Was Begun	Cases	Fatal	% Mortality	% Incidence
1	28	1	3.5	14.0
2	31	1	3.2	15.5
3	43	6	14.0	21.5
4	30	1	3.3	15.0
Total treated early (96 hrs.)	132	9	6.8	66.0
5	14			7.0
6	13	1	7.7	6.5
7	18	1	16.6	9.0
8	4	3	50.0	2.0
9	2	2	0	1.0
Total (5-9 days)	51	7	13.7	25.5
10-22 days	5	1	20.0	2.5
Onset Undetermined	12	5	41.6	6.0
Total	200	22	11.0	
Corrected Mortality			9.5	

Of the important factors influencing final results age and time of initiation of therapy are to be considered. In this series 58.5% of the patients were over forty years of age and 57.5% of the deaths occurred in this group (Table 5). Table 6 divides the time therapy was begun into four time periods: 1-4 days, 5-9 days, 10 days and over and onset undetermined. In 132 cases (66%) treatment was instituted within four days of the onset of the disease. Only 9 of these were fatal (6.8%) as compared with 13.7% in the 51 cases where treatment was delayed 5-9 days. The mortality doubles with each period of delay.

Table 7 breaks down the response according to the different dosage schedules. 163 (81.5%) of the 200 cases were treated with lower dosages. Of the 74 cases on the 6 hour schedule, 74.3% showed normal temperatures within seventy-two hours as compared with 89 patients on the 8 hour schedule and a 69.4% response. On the two dosage schedules 28.3% and 23.6% respectively responded within 24 hours — 35.2%, and 28.1% in the second 24 hr. period, and an added 10.8% and 15.7% in the third 24 hr. period. A small number of cases, 15, placed on the former usual 4 hour basis showed no better results than observed when less frequent administration was employed.

In taking the entire group of 200 cases as a whole, 65% had normal temperatures within 72 hours as compared with 62.2% in the 90 typed pneumococcic series, and 67.6% in the 80 cases of undetermined etiology.

TABLE 7.
Analysis of Effect of Treatment on Temperature Response in the Different Dosage Schedules.

Dosage Schedule	4 gms. Initial 1 gm. q 4 hrs.		3 gms. Initial 1 gm. q 6 hrs.		3 gms. Initial 1 gm. q 8 hrs.	
Afebrile within (hrs.)	Cases	%	Cases	%	Cases	%
24	2	13.4	21	28.3	21	23.6
48	4	26.5	26	35.2	25	28.1
72	2	13.4	8	10.8	14	15.7
Total Response (72 hrs.)	8	53.3	55	74.3	60	67.4
4-6 days	5	33.3	11	14.9	16	18.0
7-10 days	1	6.7	2	2.7	5	5.6
11-35 days			2	2.6		
Total	14	93.3	70	94.5	82	92.2
Fatal	1	6.7	4	5.5	7	7.8
Total	15	7.5	74	37.0	89	44.5
Combined IV and Oral Rx	18	9.0				
Fatal	8	44.5				
Afebrile Course	2	1.0				
Initial Dose only	—2 fatal cases					

TABLE 8.
Analysis of 72 hour Response in the Different Groups

Afebrile Within	Typed Cases		Undertermined Etiology		Whole Group	
(hrs.)	Cases	%	Cases	%	Cases	%
24	18	20.0	21	26.3	48	24.0
48	29	32.2	25	31.3	56	28.0
72	9	10.0	8	10.0	26	13.0
Total Response (72 hrs.)	56	62.2	54	67.6	130	65.0
4-6 days	19	21.2	11	13.7	36	18.0
7-10 days	3	3.3	4	5.0	8	4.0
10 plus-days	1	1.1	3	3.7	2	1.0
Afebrile Course	1	1.1			2	1.0
Fatal	10	11.1	6	7.5	22	11.0
Corrected Mortality	9	10.0			10	9.5
Total	90		80		200	

TABLE 9.
Drug Reactions

	Cases	Fatal	% Mortality	% Incidence
Rash	1			0.5
Hematuria				
Gross (1 with anuria and lumbar pain)	2			1.0
Microscopic	5			2.5
Chills and Fever	3	3	100	1.5
Crystalluria	11			5.5
Leukopenia				
4000 WBC and below	5			2.5
4000-5000 WBC	4			2.0
Psychosis	1			0.5

The toxic effects resulting from sulfamerazine therapy are tabulated in Table 9. The incidence of reactions was low probably because the total dosages were low. Chills, fever and rash occur infrequently, nausea and vomiting not at all. Crystalluria was noted 11 times, a 5.5% incidence. The specific gravity of the urine in 7 of these was above 1.016. Hematuria occurred as a gross finding in 3 cases one of which cannot be attributed to the drug (1.0%). This was a case of Staphylococcus aureus pneumonia who was admitted to the hospital with a hemorrhagic diathesis exhibited clinically as a purpura, hematemesis and hematuria. Due to the severity of the disease chemotherapy was thought advisable. This was prior to available penicillin.

One was a case of Streptococcus viridans pneumonia who received massive doses of IV drug and on the fifth day developed hematuria. Upon forcing fluids the urine cleared, and therapy was resumed with no recurrence of the hematuria in the remaining three days of life.

The third case of hematuria was a Type IV pneumonia with meningitis. After apparent recovery twice, there was a second recurrence of meningitis. The third course of sulfamerazine resulted in lumbar pain, anuria and hematuria, and in addition a urethral stricture which was dilated. NPN at this time was 69, Creatinine, 4.3. The urine remained bloody until exodus five days later at which time hematemesis and melena were also present. The patient did not respond to 250,000 U. penicillin I. V. and 10,000 U. intrathecally. All three of these patients had a bacteremia and all received massive doses of sulfamerazine.

Microscopic hematuria (20 or more RBC per H.P.F.) was noted on 5 occasions, 2 of these had specific gravity above 1,017. In the whole series the specific gravity was kept below 1,015 in all but 31 instances.

Psychosis attributable to the drug occurred but once. We might mention here that in nine of the patients who were chronic alcoholics psychosis appeared on the second or third day of therapy and subsided within 24 to 72 hours while therapy was continued. This has been noted no matter which sulfonamide is used and the drug is thought not to play a part.

Six of the nine cases of leukopenia had admission WBC from 4500-8700. In one the polymorphonuclear count fell to 43% and rose to 68% within 24 hrs. of stopping the drug. There was no consistency in the time of its appearance, anywhere from the 3rd to 7th day of therapy.

Table 10 lists the complications of the disease. Meningitis, empyema, endocarditis and extension of the infection occurred after therapy, the remainder indicating the severity of the disease were present on admission. The low incidence of empyema is to be commented upon. Upon thoracentesis only 30 cc of pus was obtained and the patient went on to complete recovery with a total of 5 weeks in the hospital.

In 12 instances leukopenia was present on admission and 4 of these were fatal.

One case had a count of 1300 with 42% polys and this rose to 8900 with 84% polys during therapy. Leukopenia is not considered a contraindication to chemotherapy but is an indication for greater watchfulness.

TABLE 10.
Complications of the Disease

Complication	Cases	Fatal	% Mortality	% Incidence
Meningitis	1	1	100	0.5
Meningismus	6	2	33.3	3.0
Empyema	1			0.5
Acute Bacterial Endocarditis	1	1	100	0.5
Extension to Another Lobe	1			0.5
Leukopenia				
4000 and below	5	3	60.0	2.5
4000-5000	7	1	14.3	3.5
Toxic Hepatitis	8	1	12.5	4.0
Icteric Index (23-125)				
Toxic Nephritis	40	6	15.0	20.0
NPN (45-140)				
Creatinine (1.1-6.8)				

Eight cases of toxic hepatitis with an icteric index from 23-125 were observed. Two of these were fatal.

Twenty percent of the series had an elevated NPN on admission ranging from 45 to 140 mg.% with a creatinine between 1.1 and 6.8 mg.%. The adverse effect is indicated by the 15% mortality in this group. The fatal cases had an NPN range of 59-120 and creatinine 1.4 to 3.9.

An interesting associated phenomenon most likely indicating Glomerular damage is the high degree of acetylation of the drug in the blood, the therapeutically inactive fraction. In the fatal cases the average percent of conjugation was 33.8% with a range of 1.9-74.1%. In the recovered group with NPN 46-140 and creatinine 1.1-6.8 the average percent of conjugation was 23.4% with a 0.9-53.8% variation.

Of 20 blood level determinations on patients with NPN below 44 and normal creatinine values the average percent of acetylation was 11.3%, the figure generally observed for sulfamerazine.

TABLE 11.
Associated Diseases in the Recovered Group

	Cases	Percentage
Arteriosclerotic OHD Compensated	2	1.1
Arteriosclerotic OHD Decompensated	1	0.6
Hypertensive OHD Compensated	1	0.6
Luetic OHD Compensated	1	0.6
Luetic OHD Decompensated	1	0.6
Rheumatic Mitral Stenosis	2	1.1
Lymphatic Leukemia	1	0.6
Severe Anemia	1	0.6
Diabetic Acidosis	1	0.6
Hyperthyroidism	1	0.6
Chronic Asthma	5	2.8
Pulmonary Tuberculosis	1	0.6
Bilateral Peritonsillar Abscess	1	0.6
Post Influenzal Parkinsonism	1	0.6
Chronic Alcoholism	16	8.9
Epilepsy	1	0.6
Fibromyamata	1	0.6
Total	38	21.3

Table 11 lists the associated diseases occurring in the recovery group. 21.3% of the cases had some chronic disease and six of these were organic hearts.

Table 12. Analysis of the fatal cases shows how prominently age, late therapy, associated diseases, severity of the disease as indicated by the fatal type of etiology, by the presence of bacteremia, associated hepatic and renal damage, and hemapoetic suppression dictate the design for dying that chemotherapy is not able to reverse.

TABLE 12.
Analysis of Fatal Cases

	Cases	Percentage
Total	200	
Fatal	22	11.1
Fatal within 24 hrs.	3	13.6
Corrected Mortality	19	9.5
Cases Usually Fatal		
Staphylococcus Aureus	1	4.5
Streptococcus Viridans	3	13.6
Friedlander's Bacillus	1	4.5
Acute Bacterial Endocarditis	1	4.5
Total	6	27.2
Corrected Mortality	16	8.0
Typed Cases	90	45.0
Fatal	10	11.1
Fatal Within 24 hrs.	1	4.5
Corrected Mortality	9	10.0
Meningitis	1	4.5
Meningismus	1	4.5
Etiology Undetermined	80	40.0
Fatal	6	7.5
Age (50-80 yrs.)	11	50.0
Late Therapy (4-12 days)	9	40.8
Toxic Nephritis	7	31.8
NPN 48-121		
Creatinine 1.8-6.8		
Toxic Hepatitis	2	9.1
Icteric Index 125		
Leukopenia On Admission	2	9.1
(3200-3500 WBC)		
Associated Diseases		
Lymphatic Leukemia	1	4.5
Hypertensive OHD (Compensated)	1	4.5
Old Hemaplegia		
Luetic OHD (Decompensated)	1	4.5
Rheumatic Aortic Stenosis	1	4.5
Bacterial Endocarditis		
Chronic Alcoholism	22	9.1
Parkinsonism	1	4.5
Bulbar Poliomyelitis '42	1	4.5
Paralysis of muscles of Deglutition		
Total	8	36.3

Twenty-two of the 200 cases were fatal and three of these within 24 hours giving a corrected mortality of 9.5%.

SUMMARY AND CONCLUSIONS

Sulfamerazine was used in the treatment of 200 patients with pneumonia at Cook County Hospital in the 1943 and 1944 season. From a pharmacologic viewpoint it is more rapidly and completely absorbed and more slowly excreted than sulfadiazine. Therapeutic blood concentration is maintained on smaller doses less frequently administered. The percentage of conjugation is about the same as sulfadiazine, averaging 11%. This value is much higher in those cases with toxic nephritis, as shown by elevation of NPN and Creatinine.

Clinical results parallel those following sulfadiazine. Toxic reactions are fewer, and this is probably due to the smaller total amounts of the drug required. The average duration of treat-

ment is no longer on the lower dosage schedule. Gross hematuria occurred following a massive dose I. V. and repeated courses of the drug.

The complications of pneumonia, particularly empyema, were observed much less frequently.

Sulfamerazine offers definite advantages over sulfadiazine and possesses equal therapeutic effectiveness.

BIBLIOGRAPHY

1. Roblin, R. O., Williams, J. H., Winney, P. S., and English, J. P.: Chemotherapy: II. Some Sulfanilamide Heterocycles. J. Am. Chem. Soc. 62: 2002, 1940.
2. Welch, A. D., Mattis, P. A., Latven, A. R., Benson, W. N. and Shiels, E. H.: Sulfamerazine: Absorption, Excretion and Toxicity, Pharmacological Laboratories, Medical Research Division, Sharp and Dohme, Inc.: Sulfamerazine: A Comparison of Sulfamerazine and Sulfadiazine on the Basis of Absorption, Excretion and Toxicity. J. Pharmacol. & Exper. Therap. 77: 357, 1943.
3. Goodwin, R. A., Peterson, O. L., and Finland, M.: Absorption and Excretion of Sulfamethyldiazine in Human Subjects. Proc. Soc. Exper. Biol. & Med. 51: 262, 1942.
4. Murphy, F. D., Clark, J. K., and Flippin, H. F.: Studies on 2-Sulfanilamide-4-Methyl-Pyrimidine (Sulfamerazine, Sulfamethyldiazine) in Man: 1. Absorption, Distribution and Excretion. Am. J. M. Sc. 205: 717, 1943.
5. Flippin, H. F., Reinhold, J. G. and Gifter, W. I.: Sulfamerazine: Clinical Evaluation in 400 Cases. M. Clin. North America. 27: 1447-1462, 1943.
6. Hall, W. N., and Spink, W. W.; Sulfamerazine: Clinical Evaluation in 116 Cases: J.A.M.A. 123: 125-131.
7. Hageman, P. O., Harford, C. G., Sabin, S. S. and Aherns, R. E.; Sulfamerazine, A Clinical Study of its Pharmacodynamics, Therapeutic Value and Toxicity. J.A.M.A. 123: 325-330.
8. Lepper, M. H., Sweet, L. K. and Dowling, H. F.: Treatment of Meningococcic Infections with Sulfadiazine and Sulfamerazine (Sulfamethyldiazine, Monomethylsulfadiazine). J.A.M.A. 123: 134-138, 1943.
9. Anderson, D. G., Oliver, C. S. and Keefer, C. S.: A Clinical Evaluation of Sulfamerazine. New Eng. J. Med. 230: 369-378.
10. Volini, I. F., Engbring, G., Schorsch, H.: Absorption, Excretion, Distribution and Toxic Effects of Sulfamerazine, and Experimental Study. Pro. of Inst. of Med., Chicago.

New knowledge as to the effective use of chest X-rays and new methods greatly reducing the cost of large numbers of X-ray diagnoses put into our hands far more effective facilities than we have heretofore had for the elimination of tuberculosis. It is now practicable to think in terms of X-raying the entire population of various areas, beginning perhaps with areas in which tuberculosis rates are still high. We can get rather definite estimates as to the number of cases which will be discovered in the various stages of the disease. We can formulate tentative estimates as to the additional number of hospital beds that will be required, and as to the numbers for whom partial or complete rest at home may be adequate. We can also judge as to the frequency with which such X-ray examinations will need to be repeated in any given locality, in order to catch the most recent infection. Homer Folks, Amer. Jour. P. H., Feb., 1944.

A REVIEW OF OLD AND MODERN TREATMENT OF ASPHYXIA NEONATORUM

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There were few references to asphyxia of the newborn in the extant writings of ancient society or even in mediaeval times, because the nature of pulmonary collapse was entirely unknown and the function of respiration was not elucidated until oxygen was discovered in the 18th Century.

In primitive times and during the period of classical antiquity a low value was placed on child life. The methods of artificial respiration employed in ancient times consisted of certain practical measures accompanied by ceremonial customs. Some put salt in the mouth of the infant with the idea of provoking the act of swallowing, and in this way dislodging the mucus. It was a widespread custom to place the child in a bath shortly after birth, not so much for cleansing as for stimulating breathing.

Major[1] quotes the following passage from "The Papyrus Ebers" which contained the pediatric knowledge of the ancient Egyptians: "The prognosis for the child on the day on which it is born may be determined by its cry. If it cries 'nee' it will live. If it cries 'ba' it will die." Unfortunately, the ancient document does not say what will happen if the baby does not cry at all. Most obstetricians are happy to hear any cry.

In the medicine of the ancient civilization of America, as illustrated in the records of the Aztecs,[2] there were many customs which resemble those of the Orient. These tribal people also believed that diseases were punishment inflicted by the gods and due to the malign influence of sorcerers. Obstetrics and pediatrics were permeated with every kind of mystic usage.

In the history of Israel, Feldman[3] points out that insufflation of air by means of a fan was especially recommended for resuscitating an apparently stillborn baby. A method of swinging the baby was also practiced, not unlike the Schultze method of comparatively modern times, though friction and massage of the child with the placenta was perhaps more widely practiced

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among the Hebrews. The infant death rate must have been high, as a rabbi in the Midrash (6th to 9th Century) exclaims that it is easier to see a whole forest of trees grow up than to rear one baby in Palestine.

In the Hellenic Period (950 B.C.)[4] the newborn was given a bath and wrapped in swaddling clothes. In Sparta children were raised on the principle of the survival of the fittest. At birth they were plunged into a bath of ice water and afterwards left naked. Those that survived were considered fit to be reared, though Galen (132-201 A.D.) deprecated the immersion in cold water.

Hippocrates[4] was of the opinion that the umbilical cord should not be severed till the child had urinated, sneezed or cried vigorously. His favorite theme was the viability of the newborn. There are at least twenty references in the Hippocratic literature on this subject.

Aristotle[4] opposed the practice employed by wet nurses of forcing the blood back into the cord as a method of resuscitation.

Soranus[4] in the first century A.D. denounced the custom of immersing newborn infants in cold water. His predecessors said if the infant became blue or stiff it was not viable, and they left it to die after the immersion. Soranus directed that these babies be washed in liquor amnii, sprinkled with salt and then washed off with tepid water. He gives the characteristics of a child that will survive: It must have a lusty yell, must be born in the ninth month, possess bodily orifices that are open and limbs capable of normal movements.

Various plans to revive newborn infants are recorded in folk lore. The Negritoes[2] of the Philippines immersed their newborn in streams of cold running water. The Maori women[2] of New Zealand also practiced immersion in streams. Among the primitive people on the bank of the Ucayali in Peru[2] the oldest of the tribe breathed and blew upon an infant to drive off demons and disease.

In certain regions of Russia[2] the custom was to seize the child by the feet shortly after birth and to shake him, head down. The Esthonians[2] first suspended the infant by the feet and then took him into a warm room and spanked the glutei with a birch rod during the child's bath.

Paulus Bagellardus[5] (about 1492) wrote: "When the infant at the command of God emerges from the womb, then the midwife with gentle hand should wrap him up in a linen cloth which is not rough but rather smooth and old, and place it on her lap, noting whether the infant be alive or not, or spotted — that is, whether black or white or of bluish color — and whether he is breathing or not. If she finds him warm, not black, she should blow into his mouth (if there is no respiration), or into his anus."

It is recorded in the mediaeval German medicine[6] that in asphyxia of the newborn the midwife gave the infant to the father, who shook him violently. The newborn was also washed in cold water. Diseases of children at any age were considered a punishment for failure to offer sufficient sacrifices. The treatment of diseases of infants and children followed a ritual calculated to frighten away the demons.

Andreas Vesalius (1514-64)[21] observed and described premature respiration and asphyxia in newborn mammals after they had been removed from the uterus, encased in their membranes. Vesalius suggested the insufflation of air into the lungs. He confirmed the experiments of Galen wherein he showed that an animal could be kept alive by forcing air into the lungs. In the same way Robert Hooke (1667) attached a bellows to a dog's trachea and produced artificial respiration.

Plater (1536-1614)[7] confirmed the observations of Vesalius. William Harvey (1578-1657)[7] demonstrated the circulation of the newborn, as well as that of the fetus, and refuted the idea which was generally prevalent at the time that the vital spirits from the mother's arteries were transmitted to the embryo. He expressed the idea that respiration is more significant for heating than cooling the blood, and that the fetus has its own heat-producing mechanism.

Even as late as 1609 the celebrated Ludovica Bourgeois,[2] midwife to Marie de Medici, wife of Henry IV of France, wrote in an account of the management of an asphyxiated infant of that period that it was wrapped in rags and placed in the darkest corner of the room, so that the mother might be spared the sad sight. Nothing was done to resuscitate the baby. This French mid-

wife related that the children were often buried alive, unbaptized, and told of one baby whose toes were bitten off by a dog while the infant was neglected in a dark corner. If an effort was made towards resuscitation, the infant was given teaspoonful doses of pure urine to aid in dissolving the mucus and to serve as a stimulant.

Mauriceau of Paris (1637-1709)[8] thought that asphyxia of the newborn was due to interference with placental function. He advised warm baths, warm pads on abdomen and thorax, small doses of wine by mouth, and urged that the face remain uncovered, the mouth be kept open and the nose frequently cleaned with pledgets of linen. Mauriceau opposed the old custom of forcing the blood out of the umbilical cord into the child's body. He also opposed the antiquated custom of midwives of placing the placenta on the abdomen of the child until the former got cold. By its mere weight it interfered with normal respiration.

Everard[9] and Needham[10] compared the function of the placenta with that of the lung, though they did not comprehend the function of either organ. Needham believed that some form of intrauterine respiration was carried on, that the fetus was nourished by the blood from the placenta, and he distinguished the fetal and maternal divisions of that organ.

Jan Swammerdam (1637-1680)[11] observed the fact that fetal lungs will float after respiration and after aeration has taken place. In his physiological experiments he studied the heart and lungs, as well as the muscles, by what we should call today "plethysmographic" methods. The fact discovered by Swammerdam that lungs would float after respiration led to the converse conclusion that lungs which have not been aerated and remain collapsed as in the fetal state will sink.

This latter fact was early taken advantage of for medico-legal purposes. In 1681 John Schreyer,[12] a physician of Seitz, which is an ancient town in Prussia, defended a peasant maid of 15 accused of infanticide. It was demonstrated that the lung of the infant sank in water, and Schreyer secured an acquittal on the grounds that the infant had never breathed.

Before oxygen had been discovered a few of the early investigators assigned a respiratory function to the placenta, and thought that the causes of asphyxia of the newborn might be compression of the cord resulting from the prolonged duration of labor, especially after the escape of liquor amnii.

It should be remembered in this connection that in the 17th Century[7] John Mayow (1643-1679), Robert Boyle (1627-1691), Alfonse Borelli (1608-1679) and Phillip Verheyen (1648-1710) made pioneer investigations in the physiology of respiration, and some of these investigators expressed approximately correct views on placental respiration of the fetus.

Johann Georgius Roederer (1726-1763),[7] who was called at the instance of Haller to Goettingen as the first German professor of midwifery, performed autopsies on infants dying during or shortly after birth. He confirmed Harvey's observations on the circulation of the fetus, and furthermore suspected that asphyxia of the newborn was due to some defect in the mechanism of respiration. Roederer arrived at the conclusion that the anatomical findings in infants who died of asphyxia were similar to those in persons who died from drowning. He came to the conclusion that in both instances death was due to suffocation. In a large measure this established the principal point in the etiology of asphyxia of the newborn, though no general agreement on the point was arrived at during Roederer's lifetime.

Christopher Wilhelm Hufeland (1762-1836)[13] was an advocate of the warm bath in the treatment of asphyxia. Wine, vinegar, salt or beeswax were sometimes added.

Johan Ehrenfried Thebesius (1717-1758)[14] recommended that the asphyxiated infant be wrapped in warm cloths and brought to the fireplace. It was also suggested that animal heat could be maintained by placing the child in contact with the body of the mother. It was thought strengthening for the delicate infant to be in the living atmosphere breathing the vapors emanating from the mother.

About the middle of the 18th Century certain attempts at artificial respiration were begun. Alternate pressure on the thorax and abdomen was practiced by some. The child was shaken and air was blown into the lungs. The practitioners approved of mouth-to-mouth breathing. Some of the clinicians and midwives of the period, however, took exception to this method.

They demanded that those who breathed into the baby's lungs should have healthy respiratory organs and a clean mouth without ulcers. Accidents sometimes occurred from forcible mouth-to-mouth breathing. Blood vessels were ruptured, hemorrhages occurred into the lungs and also on the surface of the body.

No great advances were made in the knowledge of placental respiration and the etiology of asphyxia neonatorum until after Priestly (1773-1804) and Lavoisier (1743-1794)[7] had made their important discoveries on the nature of oxygen. After this discovery it was possible to establish the definite function of the placenta in fetal respiration.

Not only the physiologic nature of respiration but also the anatomical structure of the lungs of the newborn was long misunderstood. At this point we may digress a moment to consider what the older authors thought about the anatomy of the fetal and infantile lung.

Atelectasis was first recognized about the beginning of the 19th Century. Jörg[24] in 1832 interpreted the condition as one of failure of pulmonary aeration.

Charles Michel Billard (1828)[15] did not fully comprehend the nature of atelectasis. He examined sections of the lungs of newborn infants which he believed showed a condition of "hepatization." Other authors of this period also used the terms "carnification" and "splenization."

Even Rokitansky[16] thought that the lungs of the fetus and the asphyxiated new born were in a state of hepatization. He found the bronchi filled with mucus and thought that atelectasis neonatorum was caused by a catarrhal affection of the mucous membrane and an obstruction of the fine bronchi.

Legendre and Bailly[17] in 1846 made further studies and showed how atelectasis differed from pneumonia; they also noted the occurrence of pulmonary collapse in older children.

A. Mendelsohn[18] showed experimentally that by cutting the vagus nerve atelectasis could be produced. He also concluded that collapse of the lung could be produced by obstruction of the air passages and compression. He thought that pneumonia might develop on the basis of atelectasis.

Bouchut (1854)[17] expressed his surprise that so many of the older authors failed to recognize the nature of asphyxia. He was clear as to the atelectatic nature of the fetal lung, its inflation after birth and the difference between atelectasis and pneumonia.

Agnes R. Macgregor[19] recently called attention to the modern conception that atelectasis is never more than half a diagnosis. It is not a thing that happens by itself. It does not in itself explain the exact cause of death.

Asphyxia is not an unusual cause of the intraventricular and subarachnoid forms of intracranial hemorrhage. It may also produce hemorrhage of the suprarenal glands, and on the surface of the liver, forming a hematoma. Expansion of the lungs is prevented by pressure upon them, such as a pleural effusion, a diaphragmatic hernia, or tumor, or by a malformation of the lungs.

Congenital atelectasis, so-called, is nearly always the result of birth asphyxia, either directly by depression of the respiratory center, or indirectly through the entrance into the lungs of liquor amnii or meconium or vernix caseosa, which are aspirated because the fetus is asphyxiated, and thus obstruct the passage of air. Most of the deaths attributed to atelectasis should be considered due to asphyxia.

Asphyxia affects the premature baby most severely. This may be explained by the feeble condition of the premature infant and the immaturity of the respiratory tract.

We may now resume a consideration of the physiologic facts concerning fetal respiration. The clinical aspects and the etiology of asphyxia were studied by C. Girtanner (1760-1800)[7], who wrote a two-volume work on pediatrics (1794). Girtanner expressed himself quite clearly to the effect that the placenta acted as the lungs for the fetus, since without oxygen no organic being could live. If the unborn child received no oxygen from the maternal blood and none from the atmosphere, its life became progressively weaker and finally was completely extinguished. Girtanner thought that absence of oxygen from one cause or another produced still-birth.

Erasmus Darwin (1731-1802)[7] the grandfather of Charles Darwin, compared the placenta with the gills of fish and considered the taking up

of oxygen through the placenta a necessary part of the function of life.

Paul Scheel (1773-1811)[20] first suggested the introduction of an elastic catheter in the trachea for the relief of asphyxia. He aspirated the fluids by means of a suction syringe, after which he forced air into the lungs.

Mursinna (1792)[22] practiced a method of resuscitation which consisted of blowing tobacco smoke into the lungs of asphyxiated infants. Many of the older clinicians removed the mucus from mouth and throat with their finger. Midwives, and physicians as well, severed the frenulum of the tongue, though Kornmann (1731)[56] thought that loosening the tongue did more harm than good.

It is an authentic fact that in the 18th Century physicians and midwives attempted to resuscitate infants by forcing air into the rectum. The most popular of these remedies was the tobacco-smoke clyster. This consisted of forcing tobacco smoke from a lighted pipe into the child's bowel, and there were many special devices constructed for the purpose. After the transitory enthusiasm for this method it was found that it was not devoid of danger. The heat of the tobacco smoke irritated and burned the bowel, overdistended it with gas, and the tobacco itself produced toxic effects. Later fluid injections with salt, antimony, soap and tobacco infusion were used. About 1793 it was suggested that antimony, squill and ipecac be employed as emetics. It is obvious that all of these methods soon proved themselves useless and were relegated to the history of tried, but ineffective remedies.

Van Hasselt[23] a little later was to give the wise and pertinent advice: "One should not harm the infant by doing too much. The simpler the remedy, the better."

Jules Beclard (1818-1887)[25], professor of physiology in Paris, found that stillborn and asphyxiated children had aspirated liquor amnii into the bronchial passages. He also stated that prolonged uterine contractions interfered with fetal respiration.

Scanzoni[26] recommended that oil of mustard should be applied to the pit of the stomach, the temporal region and the nostrils. He also suggested that chopped onion, alcoholic substances, vinegar or ammonia should be applied to the skin. Drops of water were allowed to fall on the body of the infant. The soles of the feet were touched with hot irons or coals. The official midwifery book of 1840 recommended this method. In 1866, however, this remedy was omitted from the manual, and it was suggested instead that mechanical stimulation such as spanking on the chest or the buttocks be substituted. Other procedures consisted of inverting the baby, placing him on his abdomen, holding pungent aromatics to his nostrils, such as onions, horse-radish, garlic, vinegar, spirits of lavender, burnt feathers, paper, sulphur or leather.

At the beginning of the 19th Century various devices for forcing air into the lungs began to be employed — bellows, double-bellows, air pumps and piston syringes were used. Albert[27] advised aspirating air from the bronchial tract allowing atmospheric air to enter the lungs of its own accord. Compression of the thorax in various ways was also employed, though the infant did not always escape injuries.

In America Dewees (1833)[28] thought that the infant might be feeble at birth due either to delay in its delivery or compression of the cord. John Eberle[29], another American pediatric writer, stated in 1834 that asphyxia might be caused by "the unceasing and vehement uterine contractions frequently excited by the use of ergot." He said it was difficult to conceive how a long-continued, powerful action of the uterus could fail to produce dangerous and fatal sanguineous congestion in the brain.

P. Cazeaux[30] made the important contribution, opposed to previous views, that the livid and the pallid, or the so-called apoplectic and anemic asphyxias were only different stages of the same process.

Hecker[31] and Schwartz[32] made pathological examinations on a large material and contributed some important knowledge on the nature of asphyxia neonatorum. They advocated the view that the infant breathed or respired through the placenta.

More scientific and rational methods of artificial respiration were introduced in the second half of the 19th Century under the auspices of Marshall Hall (1790-1857)[33] and Henry R. Sylvester[34]. Both of these methods were used in the treatment of asphyxia of the newborn, though

the Marshall Hall method became most widely known and most extensively used. Other methods were those of Howard[35], Pacini[36], Schücking[37], Schüller[38] and Schröder[39].

The swinging method which was introduced by B. S. Schultze[40] was first alluded to in his midwifery book about 1860. In 1865 he published the results of his experience, citing a large number of cases. The child is swung forward and upward and as a result of gravitation and centrifugal force the ribs, clavicle and sternum are elevated and the diaphragm depressed. Accidents resulting from Schultze's swingings have been enumerated as follows: There may be rupture of liver and spleen; also, hemorrhage in the perirenal tissue. Danger from injury to the brain or cord may be increased or actually produced, the clavicle may be fractured, or trauma to the thorax may occur. Schultze still maintained in 1911[41] that the method was the most efficient at our disposal. The proper technic, he stated, was not always employed and if the swinging were too vigorous bones might be fractured or internal organs traumatized or ruptured.

Franz Ahlfeld[42] believed that the infant was capable of making respiratory movements during intrauterine life. Subsequent investigations have shown that this is possible, though the condition of the collapsed lung in utero is not affected by these movements; it has also been shown that the latter are superficial in nature and due to contractions of fetal muscles. Ahlfeld also refuted the view that the onset of respiration in the newborn is the result of exposure of the infant's body to the external air. He delivered several women in warm saline baths and found that respirations began as usual.

W. Preyer[43] attributed the onset of respiration to reflex stimulation of the respiratory center by the trauma of labor, though this theory was incompatible with the fact that attempted version and application of forceps fail to initiate breathing as long as the fetus is in utero, with the placental circulation intact.

At this point some modern methods of artificial respiration may be noted. Laborde[44] advised to-and-fro traction of the tongue, which gives rise to a reflex stimulation of the phrenic nerve. Dew[45] suggested a method by which the child is grasped in the hand of the operator and, by gently bending it backward, inspiration is brought about; bending it forward cause expiration.

Mechanical devices have been introduced to pump air or oxygen into the lungs and to aspirate fluids and air from the lungs. Ribemont[46] about 1879 invented an insufflator, a curved tube with bulb. Trueheard[47] devised an apparatus which was a gasometer with laryngeal tube, whereby air might be brought into the lungs. Waxham used an O'Dwyer intubation tube.

Fruitnight[48] recommended the faradization of the phrenic nerve. He put one pole over the phrenic and the other over the neck.

Most recently Phillip Drinker[49] has devised an electric respirator; it produces prolonged passive artificial respiration on the principle of employing differential negative pressure.

That a number of babies will die because of the severity of the asphyxia and its serious underlying causes is obvious. It is also quite apparent that in serious lesions of the central nervous system produced by the trauma of a difficult labor, or asphyxia itself, violent attempts at resuscitation are out of place.

The trend of modern opinion is that a deeply asphyxiated infant should be regarded as one who has suffered intracranial injury with hemorrhage. Any of the old treatments such as spanking, violent artificial respiration, cold baths, dilatation of the sphincter, Schultze's swingings and what-not should be obsolete.

It is some advantage to place the baby with face downward and hips slightly elevated so that gravity may exert some effect in clearing the air passages. The practice of inverting the baby and holding him by the feet, however, may do harm — especially if there is a head injury.

In every case of asphyxia the mouth and pharynx should be wiped out with the rubber-gloved finger or a small piece of sterile gauze. In the more severe cases it is necessary to use a tracheal catheter. It has been suggested that in introducing the catheter one should proceed as in intubation of the larynx.

It is a serious complication if the infant is born deeply asphyxiated. The cardiac as well as the respiratory centers may be paralyzed because of prolonged pressure or intracranial injury. It is unwise to try to produce respiratory

movements until the cardiac function is in aetion, or restored. It is imperative that the infant should be kept quiet and warm. Baths should not be given at this time beeause they not only cause loss of heat but excessive movement.

Treatment by inhalation of oxygen, or by oxygen combined with earbonie acid is a method recently employed. Yandell Henderson[50] reeommends a mixture of about 7 per eent carbon dioxide mixed with oxygen. The Drinker respirator may be used to produce artificial respiration, though the oxygen inhalation method is less violent and is preferable after the airways have been eleared.

Eastman[51], who reviewed the work of Henderson, said that carbon dioxide is superfluous and possibly harmful, inasmuch as it may tend to intensify an already existing acidosis. "There seems," says Eastman, "only one urgent indication in the treatment of asphyxia neonatorum, and that is to supply oxygen." Neonatal asphyxia is in every case due to a reduetion in the amount of available oxygen in the eirculation.

The carbon dioxide-oxygen inhalation method of Henderson is still favored by some physicians, espeeially in the mild cases, but William F. Windle[52] in a recent eommunication based on some resuseitation experiments in newborn animals thinks that the use of carbon dioxide is definitely eontraindieated.

The so-called respiratory stimulants, alphalobeline, metrazol and coramine all have enjoyed periods of some popularity. At the present time many clinicians look with eonsiderable skeptieism on the value of these drugs. They are of doubtful value and are not reeommended.

Analgesics and anesthetics administered to the mother may contribute to the degree of asphyxia in the newborn infant.

Torpin[53] has recently suggested a small insufflator by which air or oxygen is foreed into the lungs through a tracheal eatheter under slight pressure.

The four principles of resuscitation of asphyxiated infants, as given by DeLee[54], are:

1. Clear the air passages.
2. Keep the baby warm.
3. Perform artificial respiration.
4. Remember the baby is in shock and treat it.

Leonard Parsons[55] says in concluding a paper on this subject that in the present state of knowledge certain eauses of asphyxia ean not be removed, but with greater supervision of the mother during pregnaney, improvement in obstetrics, increased appreeiation of the possible untoward effects of drugs, anesthetics and sedatives, and better care of the newborn, no one ean doubt that the lives of many infants will be saved.

BIBLIOGRAPHY

1. Major, Ralph H.: Annals of Medical History, 2 September, 1930.
2. Von Hovorka, O. and Kronfeld, A.: Vergleichende Volksmedizin, Stuttgart, 1908.
3. Feldman, W. M.: Antenatal and Postnatal Child Physiology, London and New York, 1920.
4. Ghinopoula, Sophocles: Paediatrie in Hellas Und Rom, Jena, 1930.
5. Ruhräh, John: Pediatrics of the Past, New York, 1925.
6. Neuberger, Max and Pagel, Julius: Handhuch des Geschichte der Medizin, Jena, 1905.
7. Gerhardt, C.: Handbuch der Kinderkrankheiten, Vol. II, Teubingen, 1877.
8. Wegscheider, Max: Handbuch der Geschichte des Medizin, Jena, 1905.
9. Everard, Novus et genuinus hominis brutique animalis exortus, Medioburgi, 1661.
10. Needham, Gualtherus: Disquisitio anatomica de formati foetu, London, 1667.
11. Garrison, Fielding H.: Introduction to the History of Medicine, Philadelphia and London, 1929.
12. Fasbender, H.: Geschichte der Geburtshilfe, Jena, 1905.
13. Hufeland, C. H.: Encheiridion medicum, Jena, 1836.
14. Baas, Joh. Hermann, History of Medicine, New York, 1889.
15. Billard, C. M.: Diseases of Children (English translation), New York, 1839.
16. Rokitansky, Carl: Pathological Anatomy, Vienna, 1842.
17. Bouchut, E.: Handbuch der Kinderkrankheiten, Wuerzburg, 1854.
18. Knapp, Ludwig: Scheintod der Neugeborenen, Vols. I-III, Vienna, 1904.
19. Macgregor, Agnes R., Edinburgh Med. J., June, 1943.
20. Scheel, 1780 (quoted by De Lee).
21. Vesalius: De humani corporis fabrica, Basel, 1542.
22. Mursinna: Abhandlung von den Krankheiten der Schwangern, Gebaehrenden, Woechnerinnen und Saeuglingen, Berlin, 1792.
23. Van Hasselt: Die Lehre von Tode und Scheintode, Braunschweig, 1862.
24. Joerg, E.: Dissert. maug. de pulmonum vitio organico, Leipzig, 1832. Also: Die Foetuslunge im geborenen Kinde, Grimma, 1835.
25. Beclard, Jules: De la chaleur produite pendant le travail de la contraction musculaire, Paris, 1855.
26. Scanzoni: Lehrbuch der Geburtshuelfe, Vienna, 1853.
27. Albert, Ueber das Lufteinblasen bei scheintodten Kindern, Neue Zeitschrift fuer Geburtskunde, 1835. III. 2. 1836. III. 2.
28. Dewees, William P.: A Treatise on the Physical and Medical Treatment of Children, Philadelphia, 1836.
28. Eberle, John: A Treatise on the Diseases and Physical Education of Children, Philadelphia, 1836.
30. Cazeaux, M. P.: Traité théorique et pratique de l'art des accouchemens. III Edit. Paris, 1850.
31. Hecker, Verhandl. der Gesellsch. f. Geburtsh. zu Berlin, Vol. VII, 1853.
32. Schwartz, Die Vorzeitigen Atembewegungen, Leipzig, 1858.
33. Hall, Marshall, "On a New Method of Effecting Artificial Respiration," Lancet, March, 1856.

34. Sylvester, Henry R.: "The True Physiological Method of Restoring Persons Apparently Drowned or Dead, and of Resuscitating Stillborn Babies," 3rd Edit. 1863.
35. Howard: "The More Usual Methods of Artificial Respiration, with Demonstrations of 'Direct Method' by the Author," Lancet, August, 1877.
36. Pacini: Nouvelle méthode de respiration artificielle dans le traitement de l'asphyxie, comparée aux autres methodes generalement employées (Fr. translation of Ital.), 1871.
37. Schuecking, Infusion durch die Nabelvene, Centralbl. f. Gun., 23: 1902.
38. Schueller: "Zur Kuenstlichen Athmung," Virchows Arch. 151, Section 1, 1898.
39. Schroeder: Lehrbuch der Geburtschuelfe, VIII, 1884.
40. Schultze, B. S.: Handbuch der Kinderkrankheiten von Gerhardt, Vol. II, Chapter I, 1877.
41. Williams, John W.: Obstetrics, New York, 1927.
42. Ahlfeld, Franz: Beitraege zur Lehre vom Uebergang der intrauterinen Atmung zur extrauterinen, Marburg, 1891.
43. Preyer, W.: Spezielle Physiologie des Foetus, Leipzig, 1885.
44. Laborde, Gazette med. de Paris, 1893.
45. Dew: "A New Method of Artificial Respiration in Asphyxia Neonatorum," N. Y. Med. Record, 43, 1893.
46. Ribemont: "Investigations of Catheterization of the Air Passages of the Newborn and Description of a New Larynx Catheter, Progr. méd. 16-21, 1876.
47. Trueheard: Ein Apparat zur kuenstlichen Respiration bei Asphyxie, Beitrage zur Gebh. u. Gyn. Vol. I, Berlin, 1872.
48. Fruitnight: Extraction by Breech with Forceps; Resuscitation of the Asphyxiated Child by Faradization, Va. Med. Month., July, 1877.
49. Drinker, P. and Shaw, L. A.: Apparatus for Prolonged Administration of Artificial Respiration: Design for Adults and Children, J. Clin. Investigation, 7, 229-247, June, 1929.
50. Henderson, Yandell: Am. J. Obst. & Gynec., March, 1939.
51. Eastman, N. J.: Am. J. Obst. & Gynec., April, 1936.
52. Windle, William F., Round Table Discussion on Neonatal Asphyxia, J. Pediat., 19: 271, August, 1941.
53. Torpin, Richard and Volpitto, Perry P.: Apnea Neonatorum, South. M. J., 35: 559-564, June, 1942.
54. DeLee, Joseph and Greenhill, J. P.: Obstetrics, New York, 1943.
55. Parsons, Leonard G.: Prevention of Neonatal Disease and Death, Lancet, 1: 267-272, Feb. 26, 1944.
56. Kornmann: Höchstnöthiger Unterricht von der Geburth des Menschen, Erfurt, 1731.
Round Table Discussion on Neonatal Asphyxia, J. Pediat. 19: 258-273, August, 1941.
Ploss, Heinrich and Renz, B.: Das Kind, Vol. II, Leipzig, 1912.
Feldman, W. M., Antenatal and Postnatal Child Hygiene, London, 1927.
Von Reuss, August Ritter: Die Krankheiten des Neugeborenen, Berlin, 1914.
Still, George Frederic, The History of Paediatrics, London, 1931.
Rilliet & Barthez (Germ. translation): Handbuch der Kinderkrankheiten, Leipzig, 1844.
Runge, Max: Die Krankheiten der Ersten Lebenstage, Stuttgart, 1906.
Bednar, Alois: Lehrbuch der Kinderkrankheiten, Vienna, 1856.
White House Conference on Child Health and Protection, Vol. IB, New York and London, 1933.
Potter, Edith L., "The Lesson to be Learned from a Study of Infants' Deaths," J.A.M.A., February 5, 1944.
Saga, Earl C., "The Care of the Parturient Woman in Relation to Neonatal Mortality," J.A.M.A., February 5, 1944.
Torpin, Richards, "The Care of the Fetus During Labor," J.A.M.A., February 5, 1944.
Tyson, Ralph M., "Immediate Care of the Newborn in Relation to Neonatal Mortality," J.A.M.A., February 5, 1944.
Kettel, Wm. C., "Resuscitation of the Newborn Infant," Wisconsin M. J., October, 1943.
Eliot, Martha M., "Emergency Maternity and Infant Care Program," J.A.M.A., March 25, 1944.
Abt, Isaac A., "The Management of the Infant During the First Three Months of Life," J. Indiana M. A. 28: 573-579, November, 1935.

DISCUSSION

Dr. Edward L. Cornell, Chicago: I want to confirm the fact that you should handle these babies gently. I cannot see any sense in turning the baby upside down, slapping it or manhandling it after it comes through labor. I have found the easiest way to resuscitate most of the babies is by use of the tracheal catheter. I advise all the younger obstetricians to get their practice on stillborn babies, thus becoming expert in placing the catheter in the trachea and not in the stomach. The catheter so often gets into the stomach and blows the stomach up, then the baby has no chance to breathe at all. It is surprising how often in these asphyxiated babies you pull out a plug of mucus which may be 2 to 4 cm. long and half a centimeter in diameter.

I have long since discarded the use of any drug after having convulsions in two infants nor do I use carbon dioxide any longer. If there is any question about the baby's coming back, use straight oxygen.

PENICILLIN THERAPY IN MENINGITIS, SECONDARY TO BASAL SKULL FRACTURE.

K. P. Johnston, Major M. C.

One hesitates to discuss the treatment of a condition based on a personal experience of only one case. However, in the condition under consideration the comparative rarity makes it impossible to accumulate any large series in the hands of any one individual within any reasonable length of time. The case presented was, at the time of its occurrence, apparently among the first of this type to be treated with penicillin. Survey of the literature reveals perhaps two or three similar but not identical cases so treated prior to that time. The case also presents several interesting complications, both attributable to the drug and to the disease itself. At the time of undertaking this treatment there was very little reliable information as to optimum dosage for this condition. Since that time there has been considerable such information published, although the final decision as to dosage has probably not yet been reached.

The case to be discussed is that of a 33 year old white soldier who was admitted to the Station Hospital, Camp Grant, Illinois, on the 24th of February 1944 at approximately 3:05 A.M. At the time of admission the patient was entirely irrational and very agitated requiring restraint. The history of the onset was obtained partly from the police report and partly from the patient at a later date.

He was involved in an automobile accident while on furlough in a nearby city during the evening of 22 February 1944. At that time he was taken to a civilian hospital and received treatment which consisted of suturing a laceration in the right supra orbital area. He was not kept at this hospital and his injuries were not thought to be serious. Approximately 24 hours later, during the evening of 23 February 1944, he became irrational, wildly agitated and was taken from a private home by the police again to a civilian hospital. Authorities at this hospital called Camp Grant and an ambulance was sent to bring him to this station. The only essential findings on admission, in addition to the wild delirium, were as follows: There was a recently sutured laceration approximately 2" long in the right supra orbital area. There was a ¾" laceration over the bridge of the nose which had not been sutured. There was marked peri-orbital ecchymosis about the right eye with marked edema of the lid and moderate chemosis of the conjunctiva. Pupils were contracted equally (patient had received morphine approximately 1 hour prior to admission) and the blood pressure was 140/88, pulse was 80. Temperature on admission was 100.2 rectally and respirations 26. A lumbar puncture was attempted on admission but was unsuccessful because of the agitated condition of the patient. At approximately 8:30 A.M. the same morning examination revealed no essential change in the restlessness; pupils were still moderately contracted but reacted sluggishly to light; all extremities seemed to have equal power of motion; reflexes were equal and active. There was a positive Babinski on the right. A tentative diagnosis of a basal skull fracture with markedly increased intracranial pressure was made. In an attempt to reduce this pressure, 50 cc. of 50% glucose solution was administered intravenously. The patient remained restless but a spinal puncture was successfully performed at this time, approximately 9:00 A.M. on 24 February, which revealed a moderate increase in pressure with a turbid fluid. The impression, therefore, became meningitis secondary to basal skull fracture.

Laboratory examination of the spinal fluid revealed a white cell count of 8230 with 91% polymorphs and pneumococci Type 18 both on the smear and subsequently on the culture. As a routine procedure a Wassermann was ordered on this specimen. As this test was performed at another installation, report was not received until some days later. This was reported as positive, however, with normal colloidal gold curve. Repeated spinal fluid, Wassermann and Kahn and blood Kahn, were all negative and no history of lues could be elicited. We therefore assumed that this was a false positive although the fact that the patient had received doses of penicillin intrathecally before the negative test was obtained brings up the possibility that the first test was correct and that penicillin therapy may have influenced the disease.

Immediately following this initial spinal puncture the intravenous administration of sodium sulfadiazine, 5 gm. in 1000 cc. of 5% glucose in narmal saline, was begun and this was again repeated later in the day. Pulse and blood pressure were taken hourly throughout this and the following day and every two hours for several days thereafter. These were never remarkable, the blood pressure varying between 126 and 150 systolic with from 70 to 90 diastolic, the pulse never being less than 80 per minute and showing a tacchycardia only with the presence of the later hyperpyrexia.

The patient remained very restless to the point of wild delirium and this was controlled only by the intravenous use of sodium pentothal of which 2 gm. were dissolved in 1000 cc. of saline and administered intermittently P.R.N. This was given by slow intravenous drip, the infusion being interrupted as soon as restlessness subsided. Approximately one half of the above being used in 12 hours. The white blood count on the day of admission was 34,300 with 81 neutrophiles. The red blood count was 4,610,000 with 85% hemoglobin.

An indirect blood transfusion of 500 cc. of citrated blood was also performed on the first day and this was repeated on the 26th day of February. This was done as a supportive measure and to supply protein nourishment. No further transfusions were resorted to as the red blood count and hemoglobin remained high and the patient was able to take proteins by mouth after the third day.

On the day following admission, February 25, 1944, during the early morning hours, the patient's respiratory rate had increased to approximately 60 per minute and oxygen by nasal catheter was resorted to beginning at 0430. An additional 5 gm. of sodium sulfadiazine in 1000 cc. of 5% glucose was also given during the early morning hours. This was the last administration of any sulfa drug. A lumbar puncture performed at approximately 10:00 A.M. revealed a white cell count of 11,000 with 90% polymorphs and again Type 18 pneumococci on both smear and culture. A blood count on the same date revealed a leucocytosis of 19,900 with 82% neutrophiles. A blood culture taken on this date was negative. The spinal fluid pressure was again markedly increased but was not accurately measured; however, at a subsequent puncture during the afternoon the pressure was found to exceed 600 mm. of spinal fluid. This was reduced to normal by withdrawal of fluid as was done at each lumbar puncture. The patient's general condition on the morning of this day was more serious than on the first hospital day. The temperature was 102.8 rectally, pulse 120, respirations 54, even in the presence of oxygen inhalation. As 15 gms. of sodium sulfadiazine had been given intravenously during the 30 hours since admission with no evidence of improvement, it

was decided to begin penicillin therapy and 10,000 units in 10 cc. of normal saline were injected intraspinally on the occasion of both the morning and the afternoon lumbar punctures. An additional 80,000 units was added to 1000 cc. of 5% glucose in normal saline and intravenous administration begun. This dosage was completed at about 1900. Sedation was secured throughout this day and the following day by the intravenous administration of sodium pentothal as described above. In spite of this initial administration of 100,000 units of penicillin, the patient's condition continued to grow more critical throughout the day and evening hours so that by 9:00 P.M. there was present a temperature of 105.6 rectally, pulse 140, respirations 52. It was decided to administer additional amounts of penicillin and accordingly 100,000 units were added to 2000 cc. of 5% glucose in distilled water and intravenous administration was begun about 11:00 P.M. This was continued throughout the night and by 8:00 A.M. on 26 February 1944, 65,000 units had been administered making the total dosage 145,000 intravenously and 20,000 intra-spinally during the first 24 hours of administration. At this time there was evident a remarkable improvement in the patient's condition with a temperature of 101 rectally, pulse 116, respirations 28. Spinal puncture performed on the morning of the 26th revealed white cell count of 3300 with 89 polymorphs but a positive growth on culture of Type 18 pneumococci. Spinal puncture performed during the afternon of this day revealed white cell count of 3500 with 90 polymorphs and a negative culture. Penicillin was administered 10,000 units in 6 cc. of normal saline intra-spinally twice on this day and 35,000 units administered intravenously up to 10:00 P.M. at which time the intra-muscular route was adopted as described below. The above was the last intravenous administration.

The patient's condition continued to improve throughout the day and by evening he was apparently nearing the threshhold of consciousness. Beginning at 10:00 P.M. the 26th of February the intra-muscular route of administration was adopted using 15,000 units in 3 cc. of saline every three hours for a daily dosage of 120,000 units and was thus continued until the evening of 4 March 1944, 7 days later, at which time the above dosage was continued at intervals of every 6 hours with a total of 60,000 units daily until the evening of 8 March when it was discontinued entirely. Lumbar puncture on the morning of the 27th of February revealed a pressure of 270 mm. of spinal fluid, a white cell count of 900 with 88 polymorphs and a culture which subsequently proved negative. Lumbar tap in the evening revealed 160 white cell count with 91 polymorphs and a culture which again proved negative. White blood count on the morning of February 27th revealed 9,200 with 71 neutrophiles. The general condition of the patient continued to improve markedly. He became conscious and fairly well oriented. The right eye which had previously been fixed now revealed movement. Penicillin was administered intra-spinally, 10,000 units in 6 cc. of saline at both the morning and evening punctures on this day.

By the 28th of February 1944 the patient's condition continued to improve. He was entirely awake and rational, taking fluids and soft diet by mouth. Spinal puncture, however, revealed a pressure of 600 mm. of fluid with a cell count of 4225, 82 polymorphs. An additional dose of 10,000 units of penicillin was administered intra-spinally. As this culture proved negative as well as the three preceding cultures, it was decided that this increase in pressure and cell count represented a reaction to the penicillin itself. Accordingly, intra-spinal administration was stopped. The only other reaction to the drug was an urticaria lasting approximately 1 hour which appeared during the initial intravenous administration and a phlebitis of left anticubital veins, at the site of the penicillin injection noted on the 4th hospital day and subsiding in about one week. From this time forward the patient's general condition continued excellent. Subsequent lumbar punctures were taken on March 1st at which time the pressure was found to be 290 mm. with a cell count of 1720 and a negative culture and on the 9th of March the pressure was found to be 140 mm. of fluid with a white cell count of 59. However, moderate to marked meningismus remained even to the latter date.

Essential ophthalmic findings were choking of the discs to 4 to 6 diopters on the day of admission which had entirely receded by the 8th of March. The right eye ball was immobile for several days after admission but this had markedly improved by the 8th of March. After the patient became conscious and cooperative it was determined that there was a total blindness of the left eye without even light perception. This was somewhat puzzling as on examination at the time of admission this eye did not show any signs of trauma. Also the patient was quite certain that this eye was not blind the day following the accident as he was able to get about and the right eye at the time was entirely closed from the ecchymosis and edema of the lids. Also the x-rays did not reveal any evidence of fracture which could involve this nerve. The x-ray report showed a comminuted depressed fracture of the *right* frontal bone and the anterior wall of the frontal sinus and right supra orbital area extending into the ethmoid cel area. The patient remained at the Station Hospital without further incident until the 16th of April when he was transferred to a General Hospital for further convalescence and treatment.

SUMMARY AND CONCLUSIONS

Detailed history is presented of a case of pneumococcic meningitis secondary to basal skull fracture treated with penicillin.

1. The marked efficacy of penicillin in the treatment of intracranial infection, due to pneumococci, is demonstrated. It is definitely our

impression that this patient would not have survived under sulfa drug or other therapy.

2. The value of intrathecal injections in the treatment of this condition is to be stressed. In the case under discussion the spinal fluid was rendered negative to culture within 48 hours.

3. It is recommended that in such cases doses of *at least* 150,000 units be administered during the first 24 hours.

4. The possibility of an increased intra-spinal pressure accompanied by an increased spinal cell count, if penicillin be long continued intrathecally, must be born in mind. It is our impression that the intrathecal route can be abandoned after three negative spinal fluid cultures.

5. The occurrence of phlebitis following intravenous administration would lead us to believe that this route should be abandoned in favor of intramuscular administration except during the critical stage when extremely large doses are indicated.

6. The etiology of the left optic atrophy in this case is not entirely clear. However, the fact that vision was present in this eye at least for 24 hours after the accident and that the fracture was of the opposite frontal area, leads us to believe that it probably resulted from the meningitis and not from injury.

PENICILLIN IN GAS GANGRENE

Report of Two Cases

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The following cases to be reported were injured in the same accident, were operated upon at the same time, by different surgeons, and both developed gas gangrene.

CASE 1 — Corporal D. S., Age 21. Admitted to Station Hospital, Fort Sill, Oklahoma, at 1300, 5 April 1944. There was a compound comminuted fracture of the surgical neck of the left humerus, with dislocation of the head. There was an extensive laceration of the skin and muscles over the posterior aspect of the arm and shoulder and a lacerated wound on the anterior aspect where the distal fragment had protruded. The patient was in moderately severe shock. Pulse 100, Blood Pressure 90/40. He was brought to the operating room and given 1000 cc of plasma. Blood type AB. As no AB donor was available donors of type 0 were cross matched until a suitable donor was found.

The skin was cleansed with green soap and water and under nitrous oxide, oxygen and ether, a careful debridement was performed. Detached bone fragments were removed, the dislocation was reduced, and all particles of dirt and leaves removed. Devitalized fragments of tissue were dissected away, and the wound sprinkled lightly with sulfathiazole crystals. The anterior and posterior wounds were lightly packed with vaseline gauze and the arm maintained in extension with a light plaster cast. Condition good, blood pressure 110/60.

A 1 cc stimulating dose of tetanus toxoid and 10,000 units gas gangrene antitoxin were administered on return to bed. Gram I sulfathiazole per mouth every four hours on regaining consciousness.

6 April 1944 — Condition good. Temperature 101, hand warm, good color. Fluids by mouth, 500 cc citrated blood. Red Blood Count 3,960,000 hemoglobin, 79%.

7 April 1944 — 8:00 A.M. — Condition same, pulse 100, temperature 102; 1,000 cc glucose in NACL, 10,000 units gas gangrene antitoxin. 8:00 P.M. — Patient restless. Pulse 124, temperature 102⁶, swelling left side of neck noted. Dressing removed and it was noted that there was necrosis of the skin edges, with air bubbles and an odorous discharge. No crepitation in tissues. Packing removed and extensive area of necrosis involving the deltoid, pectoralis major and part of trapezius muscles was observed.

In the patient's room and under pentothal sodium intravenous anesthesia resection of the devitalized muscles was carried out. The wounds were packed with gauze saturated with azochloramide solution and catheters inserted to provide for hourly irrigation. 10,000 units penicillin was given intramuscularly. 500 cc citrated blood was given and 10,000 units gas gangrene antitoxin, 5,000 units penicillin was given every hour. Pulse 136. Condition poor.

8 April 1944 — Condition fair. Pulse 130, temperature 103, continuous intravenous drip, 3,000 cc glucose 5% in NACL, 500 cc citrated blood, 5,000 units penicillin every hour, intravenously. 8:00 P.M. — Pulse 136, temperature 103. Penicillin increased to 10,000 units every hour. 10,000 units gas gangrene antitoxin. Smear, numerous gram & cocci; numerous gram & rods. (Culture: clostridium perfringens.)

9 April 1944 — Temperature 102, pulse 130, respiration rapid and irregular. Swelling of neck continues. Condition not improved. Wound irrigated every two hours with azochloramide solution, and 10,000 units penicillin every hour intravenously. 500 cc citrated blood. 9:00 P.M. — Very restless, pulse weak — 126, respiration 26.

10 April 1944 — Condition still critical. Areas of superficial necrosis in wound excised. Irrigated with azochloramide. 500 cc citrated blood and penicillin increased to 20,000 units every hour.

11 April 1944 — Condition unimproved, swelling of neck decreased. 500 cc citrated blood and 20,000 units of penicillin given.

12 April 1944 — Condition same, chest clear, pulse rapid, 500 cc citrated blood given. Continuous intravenous glucose. Few areas of necrosis in wound excised. Smear shows clostridium welchii and gram positive cocci. Red blood count 4,180,000; white blood count 16,450; hemoglobin 81%.

13 April 1944 — Arm swollen. Gangrene has invaded distal and proximal fragments of humerus and the capsule of the joint. Gas bubbles and odor about ends of bone. Amputation decided upon. Arm removed at bed side under pentothal sodium anesthesia. Flaps not sutured.

14 April 1944 — Condition same. Wound clean, pulse 120, temperature 102, 250 cc citrated blood given. Penicillin increased to 35,000 every hour. Red blood count 3,500,000, white blood count 9,000, hemoglobin 60%.

15 April 1944 — Smears show B pyocyaneus and gram positive cocci, in large numbers. Temperature 103, pulse 120, cannula removed. No areas of necrosis present. Red blood count 3,200,000, white blood count 15,450, hemoglobin 58%.

16 April 1944 — Condition improved. Temperature 103, wound clean, dressed every 8 hours, 250 cc citrated blood given, chlorides 443.

17 April 1944 — Condition improved. Wound dressed every 8 hours. Sulfathiazine gram I every 4 hours. Penicillin decreased to 30,000 every three hours. Red blood count 3,680,000, white blood count 10,650, hemoglobin 64%. Smear gram positive rods (clostridium perfringens).

18 April 1944 — General condition improved. Wound clean, sulfathiazole powder to wound. Sulfadiazine per mouth. Penicillin 30,000 units every three hours. Red blood count 3,600,000, white blood count 12,300, hemoglobin 68%.

19 April 1944 — Condition improved. Temperature 101, Pulse 90, penicillin decreased to 20,000 every three hours. Sulfadiazine gram I every 6 hours. 250 cc citrated blood given. Red blood count 3,510,000, white blood count 11,200, hemoglobin 74%.

20 April 1944 — Condition improved. Temperature 98, pulse 90. Wound clean, few organisms on smear. Red blood count 3,860,000, white blood count 12,850, hemoglobin 81%.

21 April 1944 — Condition improved. Sulfadiazine given I every 6 hours. Penicillin 20,000 units every 3 hours for 4 doses. 250 cc citrated blood given. Urine negative.

22 April 1944 — Condition improved. Wound clean. Penicillin and sulfadiazine discontinued. Temperature and pulse normal. Red blood count 4,330,000. White blood count 10,150. Hemoglobin 91%. Smears negative.

23 April 1944 — Continued to improve. Wound clean. Full diet. Sulfathiazole powder to wound. Sulfa blood level 1.3 when used only in wound.

COMMENT

It had been hoped that in this case the arm might be saved, but the condition of the wounds on 13 April 1944 indicated that this hope must be abandoned. On 17 April 1944 smears showed no rods but many gram positive cocci. It was apparent then that penicillin alone, while controlling the gas bacillus, was not effective against the pyogens. Penicillin was decreased, and sulfadiazine gram I every 4 hours was started. Within 36 hours the wound was quite free of gram positive cocci. At the end of 10 days the temperature was normal and the wounds clean. Plastic surgery would be employed at the proper time.

In all, 6,680,000 units of penicillin, 40,000 units of gas gangrene antitoxin, 12 grams sulfathiazole, 28 grams sulfadiazine, 15,000 cc plasma and 5,000 cc citrated blood were given.

Chloride and water balance have been maintained by judicious use of normal salt solution. In order to conserve space many laboratory reports have not been included.

CASE 2 — T.M.R. S/Sgt., ASN 6594449, Battery A, 262nd FA Bn. Well developed, well nourished adult male admitted to the Station Hospital, Fort Sill, Oklahoma, at 1300, 5 April 1944 in mild shock. Blood pressure 98/60.

There is an extensive laceration of the right calf, extending from the region of the head of the fibula, downward and medially across the posterior surface through the gastrocnemius and partially through the soleus muscle. The laceration is filled with debris and dirt. Skin laceration about 8" long with avulsion of skin and fascia on the lateral surface of the leg.

Plasma was given and patient prepared for operation. Complete debridement and irrigation done, removing all devitalized tissue. Closure was done anatomically suturing muscle and fascia with 0 chromic catgut, leaving a vaseline gauze packing extending to the base of the wound, and dusting sulfanilamide powder into all layers. Skin was closed with silk. Anesthesia — general — nitrous oxide and ether. A posterior plaster splint applied to the leg. 500 cc plasma given in the operating room, 1,000 cc 5% glucose in saline later, 1 cc tetanus toxoid given, 5 cc gas gangrene antitoxin (10,000 units) and sulfathiazole gram I every 4 hours.

Progress Notes:

6 April 1944 — General condition good. No unusual swelling. Circulation good. Low grade fever, 99°. Pulse 90, respiration 20.

7 April 1944 — Temperature 100°. No increase in swelling or pain. General condition satisfactory.

Taking fluids well. 10,000 units gas gangrene antitoxin given, sulfathiazole continued.

8 April 1944 — Patient complaining of a little more pain today. Temperature 99^{6}. Circulation still good. Dressing changed because of faint odor. Moderate drainage and some air bubbles. No crepitus demonstrable. Smear and culture taken.

Under sodium pentothal anesthesia a complete excision of all involved tissue done, all calf muscles involved were excised and wound irrigated and packed with gauze. 10,000 units penicillin IV given, 10,000 units penicillin IM, 5,000 units penicillin IV every hour, 500 cc plasma and continuous IV, 20,000 units antitoxin, irrigation of wound every two hours, sulfathiazole discontinued. Pulse 80, temperature 100^{8}, general condition good. Drip of azochloramide solution started to irrigate wound. Gram positive rods and cocci in smear — 10-15 IF. Culture: clostridium perfringens.

9 April 1944 — No change. Temperature 99^{8}, 102 and 101^{6} during day. Pulse 88, and 104 at 2100. Wound irrigated every three hours with azochloramide. Temperature up to 102^{4} during night, pulse 102-110.

10 April 1944 — General condition seems improved. Patient more alert. Dressing changed repacked with azochloramide solution. 500 cc blood given IV, temperature 101^{2}-102^{6}. Complains of severe pain. Penicillin increased — 10,000 units every hour.

11 April 1944 — Dressing changed, very little necrotic tissue found. Wound irrigated with azochloramide. 500 cc blood given, 10,000 units penicillin every hour. Temperature 100^{6}, pulse 88, at night temperature is 99^{8}, pulse 88. Smear: Few gram positive rods. 0-IF (clostridium).

12 April 1944 — Dressing changed, wound clean, irrigated, moist dressing reapplied. 500 cc blood given, continuous IV fluids. Temperature 100, pulse 88, and patient on soft diet. Smear — gram positive rods (clostridium).

13 April 1944 — General condition much improved. Wound clean. 500 cc blood given. Sulfathiazole powder dusted into wound. Has slight toe drop, no motion of foot. States right foot feels numb, color of foot is good. Temperature 98^{2} in A.M., 101 and 99^{6} in evening.

14 April 1944 — Wound cleaned, repacked with sulfathiazole powder. Later irrigated with azochloramide solution.

15 April 1944 — Wound clean. IV discontinued, 20,000 units penicillin every three hours. No temperature or pulse elevation.

16 April 1944 — No temperature elevation. Wound moistened with azochloramide solution.

17 April 1944 — Temperature normal. Penicillin given, 10,000 units every three hours. Wound clean, azochloramide wet dressing. Smear — many pus cells, no organisms.

18 April 1944 — 10,000 units penicillin IM every three hours. Temperature 99^{8} at 1700.

19 April 1944 — Penicillin stopped after two doses today. Temperature 98 in A.M., 99^{8} at 1 P.M. Wound clean, smears negative.

1,525,000 units penicillin were used.

CONCLUSION

These two cases of gas gangrene, in which penicillin therapy was employed in addition to other measures, recovered.

THE PUBLIC HEALTH NURSE OF TODAY

WINSTON H. TUCKER, PH.D., M.D.
Commissioner of Health
EVANSTON

The first National Public Health Nursing day will be observed throughout the country on January 26, 1945. It is therefore fitting that all physicians and nurses in Illinois take part in commemorating the fine work which is being done by public health nurses in this state. The purpose of this article is to acquaint practicing physicians and public health administrators with the present day conception of the role of the public health nurse, and to remind them of the many things that the nurse can do to aid in the overall program of preventive and therapeutic medicine to augment the services of physicians.

Although we all know that there are public health nurses working in our communities, many of us do not appreciate her functions and objectives, and her relationship to the practicing physician in the protection of the health of his patients. The field of public health nursing now embraces all aspects of preventive and curative medicine including general communicable disease control, venereal disease and tuberculosis control, child hygiene, maternity service, school nursing, mental hygiene, services to the handicapped, industrial hygiene and bedside nursing of the sick in the home. In a properly organized public health agency, the nurse works under the direction of a physician or a medical advisory board, and a nursing supervisor who outlines and directs her work in all of its phases.

A generation ago, any graduate nurse could enter the field of public health, and if endowed with temperament, personality and skill to adapt herself to this field, she made a reasonably good

record if she was willing to keep abreast of new developments in public health nursing. However, the public health nurse is now expected to have special training before she is qualified to enter this field, and in the State of Illinois, public health nurses who are paid from public tax funds are required to take an examination for certification as a public health nurse by the Department of Registration and Education. Certification requires a minimum of one semester of academic work in an approved school of public health nursing and one year of field experience under supervision of a registered and certified public health nurse. As a result, administrators of public health agencies throughout the state are insisting upon better preparation of nursing personnel before assignment to duty, and private or voluntary agencies are now following the same pattern to a great extent.

The fundamental principle of public health work today is health education, and every contact of the properly trained public health nurse is utilized to instruct patients as well as groups in the fundamentals of personal and public hygiene and sanitation, in order that they may better understand how to protect themselves from health hazards and illness. To be able to do this in the proper manner, the nurse must be familiar with the methods of transmission of all types of communicable disease, as well as the basic epidemiological principles which should be followed to control such diseases by immunization or adequate isolation and quarantine of cases and contacts who might spread the disease. When caring for the sick in the home, the principles of hygiene and sanitation are demonstrated to the other members of the family in order that they may understand the technique and reasons for protecting relatives and friends. The modern public health nurse can do all of these things, and a generalized program including all aspects of public health nursing service to the family as a unit is the most satisfactory and economical practice. The generalized program is gradually replacing the specialized nursing programs which have largely been the accepted method in the past.

With the entire family as the unit, the same public health nurse sees the mother during the pre-natal period, may be present to assist the physician at the birth of the child, instructs the mother in care of the child during the infant and preschool years, advises on the time for immunization, superivses the older children through the school health service, consults with all members of the family during acute or chronic illness and gives home nursing care when necessary. The problem of overlapping services of several nurses from several different specialized health agencies is then eliminated, and the family depends upon one nurse for all health direction. Thus the health problems of each member of the family are seen from the viewpoint of the effect on the family as a whole, and the tendency to overstress one special phase of nursing service is overcome.

In all services which the public health nurse renders, she relies upon the private physician for medical care and guidance. She aids him in care of the pregnant woman, and helps solve the many problems of the mother which arise in pregnancy. Infants and children are referred to the family physician for immunization and correction of physical defects. School children who need dental care are referred to a private dentist. The orders and directions of the physician are followed in the care of children with acute communicable diseases, as well as the patients who have tuberculosis or are handicapped by crippling. The nurse also renders service to other cases of general illness for whom the physician has requested care. In short, the public health nurse complements the services of the physician and spares him the many small details which would otherwise use up so much of his time. Without the physician, a nurse cannot function, whether in the hospital, the public health agency or the home. The nursing profession developed because the medical profession needed it, and without physicians, the work of the nurse would be largely ineffective.

The public health nurse is now well established in this country, and most communities accept her and her services as essential to the well being of their citizens. The generally accepted standard which we should like to achieve is one public health nurse for each 2,000 persons in the general population. Few communities have reached this goal, but when the war is over the possibilities and likelihood of expanding health department services is most encouraging.

Know your public health nurse — who she is, and familiarize yourself with her services. Be sure you know how she can be reached. She is

an important person who works quietly and effectively without fanfare and too often without appreciation. Invite her to speak to your professional society, service club, church or P. T. A. group, and learn at first hand what her functions are. She needs your help and support in all of her work. Yours will be a better community when everyone appreciates the value of public health nursing service, and the general level of good health will be raised appreciably. The achievements of the public health nurse justify the continued support of her work by the medical profession; thus each does a much better job with the support and appreciation of the other.

PATTERN OF GROWTH

JOHN CAREY, M.D.
JOLIET

The pediatrician, when he took over the nutrition of healthy as well as sick babies, accepted wider tasks and added responsibility. He became interested in positive medicine and in the protection of maximum physical growth. This protection took him into the multitude of problems of child care, of individual differences of infants, of complicating mental factors in the parents. He found that clinical progress of physical and mental welfare were interdependent, that the boundary between normal and abnormal was not a fixed standard but shifting one.

The social forces which lead to this trend in pediatrics are bound to be more evident in the Post War Era. The alarming number of defects and rejections of military applicants, the mounting tide of adolescent delinquency, make it imperative that supervision of growth and development must become an important part of general medicine. The realization that the under-lying pathology must be dealt with in the early most formative years of life shows the important position pediatrics will play in the general field of medicine in the Post War Era. The medical student of the future must be made to realize that the study of growth and development should be just as important a part of the medical curiculum as is the diagnosis of disease.

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With the return of Peace it appears rather certain that there will be a much greater mobilization of resources of positive medicine to safeguard the growth of the human infant. These, I hope, will be individualized and applied to all types of children, normal and handicapped. Such a program should be under the supervision of the medical men of the future.

We are now serving a public who are educated, perhaps not too wisely, by radio, newspapers, and magazines along the lines of nutrition — food and vitamins. They are diet conscious. There is every reason to believe that supervision of their education might be another problem of medical men since their experience and knowledge of facts put them in an enviable position as instructors.

In this time of Victory Gardens, everyone is conscious of fertilization and care of seeds and plants. If the parents, nurses and doctors realize how this same trend of thought might be turned toward the development of the child, viz; that the child has grown before birth and will grow after birth according to the hereditary laws of the species, race and family, and the environment he enters into will portray to a large part his pattern of growth.

There have been many intensive studies of the growth of children in this country and abroad in recent years. Much valuable information has been assembled regarding the normal distribution of measurements obtained from groups of children at succeeding ages and as to rate of growth in various dimensions at each age. These studies have shown that, while a wide range of difference exist between children of the same age, individuals tend to remain in much the same position with respect to the normal distribution from period to period, and tend to grow in an orderly and predictable manner at succeeding ages.

It has also been shown that not only racial but social, dietary and other factors such as environment, disease, and fatigue influence the size of children in different groups.

Heredity, constition and the human types of his parents often may be responsible for a child's being under-developed both physically and mentally. Although many exceptions occur, tiny parents cannot be expected to produce giants, or morons geniuses. However, nutritional and mental guidance may improve the stock.

The more wide spread knowledge of these factors probably is responsible for the fact that growth, especially in infants who have adequate medical supervision are larger. The average student entering college at present is two inches taller and seven pounds heavier than the last generation.

Environment not only the physical surroundings, but more especially the attitude of the parents, grandparents, and other relatives toward each other, and toward the child exerts a profound influence on the child's development. Frequently the problem is to treat the parents. If this is impractical, having the child moved, temporarily or permanently to a new environment with understanding teachers or relatives restores the normal growth and development. Friendly companionship is essential for children.

That the average stature of university students is greater than that of workmen probably reflects the better early nutrition and more attention to physical deevlopment of the former group than any influence of cultural background and environment. The retardation in growth in children from a poverty stricken district, which is greater for lateral than the total body length can be eliminated by medical and social service supervision if the economic conditions are improved and the residents of such communities educated to the new facilities available to them by the recent advances in medicine.

Fatigue has an important bearing on growth, though acute muscular fatigue is a smaller factor than chronic fatigue from long continued restraint in schools and factories and nervous fatigue from excitement and inadequate sleep. Shortening school hours for children not gaining satisfactorily often will produce improvement. Inadequate sleep affects growth. School children usually are larger than those of the same age who work in factories. Mothers who are not employed up to the time of delivery have larger children and lower infant mortality and fewer congenital malformations. Athletics in moderation, and if strength tests are used to classify children, probably are beneficial to growth and development. This is rather an important subject. It is highly necessary to realize excessive programs or stimulation beyond that individuals ability to "take it" will produce a burden on the child. Activity takes precedence over growth in the utilization of food. If the child's activities demands are in excess of the energy producing food then the remainder activity demand will be satisfied by converting the amino acids or other tissue building nutrients into dextrose and utilizing it for energy of activity rather than for growth production. A child must not be expected to function to the limit of this organic capacities at all times.

Just as important in individualizing the physical program is attempting to map a pattern for a group of children. Each child must be considered separately. In appraisal of the development of a child a physical examination is essential, but more important is a comparison of periodic examinations in order to determine the rate of progress. The standard of a normal child should not be in terms of average measurements, but of soundness of body and mind.

The child's present weight, height, and other accepted measurements, his birth weight, a history of his weight gain, the size of his parents, his muscle tone and action, turgor of the flesh, condition of the skin and subcutaneous tissue should be considered. It should be remembered that normal differences exist in the weights of individual children and that occasionally a weight gain may be an erroneous index of normal development, as edema, abnormal fat distribution, etc., may occur. A study of the child's heredity, his mental status and his economic, social, and cultural background and opportunities should be included.

The comparison of a child's behavior with normal patterns will lead to an earlier detection of preventable handicaps and to a more complete recognition of the interrelation of mental and physical welfare. Diagnosis is still the most important field in pediatrics and the early observation of deviation from normal progress in growth considering the potentialities of that individual will in the future be just as important a part of preventive medicine as immunization against diphtheria, small pox, or typhoid.

To achieve maximum results in all lines of development is beyond reason and it is not our desire to attempt optimum development in all children. To attempt maximum attainment in certain lines may bring the penalty of retardation along others. Production of super men or super race is ridiculous. In general the physician's view would favor the development of a

parallel being well adapted in all phases for meeting his environment rather than strive for maximal developments of body or intellect.

Nevertheless the physician must never lose sight of the controlability of certain phases of development and the role he can serve in directing his patient toward a desirable pattern of growth, accepting the standards of progress for what they are; cross section averages of children from diverse groups and of varied levels of health rather than ideals of achievement.

SUMMARY

A brief survey of the factors involved in growth indicate the strategic position of pediatrics in the future scheme of medicine.

Social factors have produced a growing demand for a periodic type of developmental supervision involving mental physical progress.

Recognition and correction of early deviation from normal will protect the potential capabilities of the individual.

DISCUSSION

Dr. Edmund Lawer, Chicago: I believe that today the infant and the pre-school child in the greater part of the United States are receiving better supervision as regards growth and development, nutrition and prevention of disease, than in any other country in the world, not only in this war period but in the pre-war and post-war eras. When the child starts school the co-operation between pediatrician and mother reaches a low ebb. The mother no longer brings the child for checkup on growth and development, but usually for some disability. I believe if the co-operation of infancy could be carried on through the school years and to adolescence, we would not have our young people turned down for disabilities, as has happened.

The first two years are a period of most rapid growth and dramatic changes, and also of dependence. In the pre-school years there is a pause in the rapid growth of infancy, and the child reaches the stage of becoming independent of his parents. During school years he becomes more stable in growth, and growth is more slow; then in high school he grows more rapidly and develops strength and ability to learn. The physician must learn to ascertain that physical and mental growth are developing together. Malnutrtion occuring during the first years of life has an important relationship to malnutrition during subsequent years of childhood. A great deal of study has been given to growth and metabolism, and much valuable information has been gained. Do the children of today weigh more or less for their height than those of former generations or remote periods of history? We know that in the past twenty-five years they do weigh more for their height than in the closing years of the last century. The boy who comes out of grammar school is almost ready to be put on the scrub basket ball team, whereas when I went to school, boys were in their 3rd and 4th year before they were large enough to make the varsity team.

Our increased knowledge of nutrition and digestion has already been applied. The use of health and weight charts in our offices has, I think, advantages and disadvantages. A child may be well within normal limitations, but according to the charts, and by comparison, you can cause a good deal of undue worry and anxiety to the mother. They do have the advantage of comparison between a perfectly normal child, who is not a stubby, overweight child like one of the neighbor's children, and you can, by comparison with the chart, assure the mother that her child is doing normally and well.

The important thing in Dr. Carey's paper is his statement that the normal child should not be considered in terms of normal measurements, but soundness of body and mind. I think the child who is gaining well, perhaps not fast but regularly — no matter what the height and weight — and is normal in behavior, I think that child is a normal individual.

LOW BACK PAIN FROM THE STANDPOINT OF THE GENERAL SURGEON

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This paper is planned to discuss lower back pain with special consideration of the problem as it is presented almost daily to the general surgeon.

Back ache is one of the most common complaints encountered in the practice of medicine. It is not a disease, it is merely a symptom. Often a very stubborn one to combat. So much so that many a physician dreads to see a patient with a back ache walk into his office. Shall we pass them off with a little liniment and aspirin, or shall we attempt to find the cause and relieve them? I suspect that many of the quack practices we encounter today are built around a neglected back ache.

In order to initiate this subject, I think it important to recognize the fact that the lower back is the fulcrum point for all of the stresses and strains of the body in action. The effect was greatly increased when man assumed the upright position. With so much complaint directed to the lower back, it is fair to assume

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that the demands have far exceeded the compensatory improvements. The lower back is a marvelous mechanical structure when we consider the endless abuses it falls heir to in a rough and tumble existence. Think of what is required of the back in the life of an athlete, soldier, laborer.

I think we should review the anatomy of the lower back so that we can visualize the muscles, ligaments, nerves, and their bony exits with their relations to ligaments and muscles, the fifth lumbar vertebra and its relation to the sacrum and the sacro-iliac joints. We must recognize that the bony relationships may vary greatly, that anomalies are common and that these deviations from the normal may, or may not, have a direct bearing on a given back ache. Anomalies, such as sacralization of the fifth lumbar, short pedicle on one side, variations in angle and position of the posterior facets, failure of fushion of the posterior arch, are viewed with suspicion and may make a back more susceptible to strains. We must also recognize that there is no such thing as symmetry in the two sides of the body. The right shoulder is likely to be carried lower than the left, the muscles on one side of the back are not as heavy as those on the other, scolosis is common, and the x-ray markings are never identical. Short leg (more than one half inch) causes a tilting of the pelvis with adjustment through the lumbar portion of the back. The pendulous abdomen, lordosis, disturbances of weight bearing through maladjusted feet and bad posture, all may be causes of back strain.

We were taught that frequent cause of low back pain in women is due to retro-position of the uterus, uterine and ovarian tumors, cervical erosions and endocervicitis. It is generally believed that pelvic disorders of women do not cause low back pain, except very rarely. Similarly, diseases of the prostate as the cause of low back pain, has been much exaggerated. Severe, persistent back pain, not relieved by relaxation or ordinary remedies may come from metastasis of the breast or prostatic carcinomas. Deep x-ray frequently gives temporary relief.

Spondylolisthesis is found in about four per cent low back cases. The fifth lumbar displaces forward on the sacrum due to lack of fusion of the ossification centers of the lateral portions of the neural arch, creating a weak spot bridged by fibrous bands. Following an injury or undue strain, these fibrous bands stretch or give way, allowing a displacement. The posterior articulations remain intact. These patients with little displacement may go on for years or a life time without any trouble. This condition was found in a man past forty years who had been a professional wrestler with no back trouble until a sudden lifting strain caused persistent pain in the lower back. The diagnosis was made positive by x-ray.

Injuries of the lower spine resulting in back ache may be due to an awkward or unguarded movement with a pinching of the posterior articulating margin, strain of ligaments or muscles, or to a direct or indirect violence.

The most common injuries of the spine are those that cause only temporary disability, but, if repeated too often, result in the chronic complaints found in men and women over forty. The lower back is stiff and sore after sitting for a time, or on arising in the morning, or in the after part of the night, improving as activity increases (they improve with warming up). In these cases, productive arthritis is nearly always found.

Acute injuries may result in over-stretched or torn ligaments and muscles, torn off transverse processes, or traumitized joints. In these, the lumbo-sacral portion of the back is most often involved. It is less stable and more vulnerable than the sacro-iliac joint.

Acute Lumbo-Sacral Strain: In acute lumbo-sacral strains, the symptoms may be out of all proportions to the extent of trauma. I do not believe that serious structural damage is done by mild force or violence. The history of the onset is very important. For instance, stooping to pick up a small object does not imply great violence, but the pain in the lower back may be severe and persist for days. In this instance, there has been a pinching of the posterior articular margin. The strain from heavy lifting or great muscle effort in stooping position is more likely to overstretch or tear the ligaments and muscles and their attachments. I have seen transverse processes pulled off by muscle action.

These patients will tell you that they experienced a stinging pain in the lower back, usually on one side, perhaps in the middle, that may feel like something gave way, or a tearing sensation followed by pain on movement of the back,

coughing or sneezing. Within several days in severe strains, the pain may appear in the buttocks or over the course of the sciatic nerve. The patient cannot stand erect because of pain, but bends forward, leaning toward the sound side. The lumbar curve is obliterated, and the back and abdominal muscles are rigid. Pain is increased by straight leg hip flexion, flexion of the hip with the knee bent, flexion of the back either sitting or standing. A point of tenderness is found over the fifth lumbar spine or the lumbo-sacral angle on the affected side. The recumbent position usually gives relief, lying on the back or the sound side with the body and thighs slightly flexed, a pillow between the knees and some form of heat to the affected part. Add to this a firm mattress and you have good treatment. The referred pain in the leg will disappear as the back improves. They should be kept in bed as long as movement causes pain. On arising, they will be more comfortable with a tight binder and should continue heat in some form. Later, stooping and bending exercises just short of inducing pain are encouraged. The majority of these cases show no x-ray evidences of injury.

Postural Lumbo-Sacral Strains: Postural lumbo-sacral strains produce chronic back ache when the muscles tire in the upright position. Rest gives only temporary relief. Occupational back strain found in coal miners and laborers becomes chronic. They have most discomfort on resuming activity after a period of rest, sitting for a time, on arising in the morning, and may have so much discomfort in the after part of the night that they have to get up and walk. It is usually associated with productive arthritis. It is surprising, though, how many times a very extensive productive arthritis of the spine is found with relatively little back discomfort. Local heat gives these patients most relief. The pendulous or relaxed abdominal wall should wear an abdominal support. Other postural corrections should be referred to the orthopedist. The coal miner usually continues working.

Facet Syndrome: Sudden pain in the lumbo-sacral back may be due to a slight subluxation of one or both inferior articulating processes of the fifth lumbar vertebra. Sudden, sharp pain may be felt on bending over, bending forward or to one side in the sitting position. One instance I am familiar with came on while crossing the legs in the sitting position. The patient complains of a snapping and a sensation of something giving way with a sudden stinging in the lower back. This may be followed by days of partial incapacity or complete disability. The symptoms of inability to bend on account of pain and tenderness over the lumbo-sacral region are the same as those of acute lumbo-sacral strain. These respond amazingly to manipulation measures. The procedures recommended are as follows: Patient lies flat on his back on a firm table and braces himself by holding the sides of the table. The operator, standing at the foot of the table, flexes the patient's hip and knee joints while grasping the ankle. The patient is then asked to give a violent kick, at which time the physician pulls strongly on the ankle in the line of the body. If properly synchronized, the maximum force is obtained when the leg is in full extension. Five to ten kicks may be required, depending on the amount of relief from pain and freedom of hip flexion. The kicking and pulling produces a forward thrust of the sacrum on the fifth lumbar vertebra in the opposite direction to which the slipping has occurred. Heat and rest for a few days complete the treatment with admonition to avoid movements that cause pain. After two to four weeks, stooping and bending exercises are recommended.

Sacro-Iliac Strain: Strains of the sacro-iliac joints occur about one fifth as often as those of the lumbo-sacral region. The rotation shearing force is great, but the ligaments are very strong. These strains are more likely to follow a misstep or slip of the foot while lifting or carrying heavy weights. Pain in the lower back is made worse by stooping, lying on the affected side, compression of the crests of the ilium and straight leg flexion of the hip. Flexion of the back in sitting position is carried out well without pain. Localized tenderness may be present to the outer side of the inferior posterior spine of the ilium and the rectal examining finger may illicit tenderness of the lower portion of the joint. It has been said that pain is more likely to be referred down the course of the sciatic nerve than in lumbo-sacral strains.

Rest on a firm mattress, some form of heat, and a sacral compression dressing is good treatment. They are likely to be more comfortable on the back with a pillow under and between the knees. They are allowed up when the upright position does not cause pain. A firm binder or belt around the pelvic girdle affords some comfort. They should continue with intermittent use of heat. The recommendations for stooping and bending exercises are the same as in lumbo-sacral strains.

Intervertebral Disks: Injuries of the Intervertebral disks may be the cause of low back pain or intractable sciatic pain. The cartilaginous plates of the intervertebral disks are thin layers of hyaline cartilage forming the top and bottom of the disks, and fusing anterior and laterally with the bony edges of the vertebrae. These plates of cartilage enclose the annulus fibrosus which is a dense, fibrous cartilaginous envelope, consisting of concentric folds of fibrous tissue. The nucleus pulposus, semi-fluid mass, is enclosed within this strong, elastic container. The fibers are fewer and thinner toward the posterior part of the disk. There is no blood or nerve supply in the adult. The disks become thinner and less resilient with age and repeated trauma. They may become so thin that there is a strain on the posterior articulations. If the force is great enough, the annulus fibrosus ruptures, allowing escape of the nucleus pulposus. If this takes place through the posterior part, it may cause persistent sciatic pain because of pressure on the nerve roots.

There may be symptoms of lumbo-sacral or sacro-iliac strain, but the major symptoms are those due to intraspinal pressure. This condition does not occur often, but must be considered when sciatic pain is predominant and persistent. A positive diagnosis is made after neurologic and intricate x-ray study. A high percentage of cures is reported after the removal of the displaced portion of the disk.

Contracture of the Fascia-Lata: Contracture of the fascia-lata has been suggested as a common cause of low back pain. This structure extends from the crest of the ilium down the outer side of the thigh to attach into the outer tuberosity of the tibia. It has a wide spread aponeurotic connection with the tendon of the gluteus maximus muscle. Contracture of this structure on one side produces lateral deviation of the spine on that side and a tilting of the pelvis. The leverage produced by this contracture may cause irritation of the sacro-iliac joint. Sciatic pain is frequent and tenderness about the posterior aspect of the great trochanter is common. These patients do not rest well lying on the back or stomach.

Ober describes a test for contracture of the iliotibial band.

A high percentage of relief is reported by simple division of the ilio-tibial band above the great trochanter, the explanation of which is: the mechanical strain on the sacro-iliac or lumbo-sacral joints due to the contracted iliotibial band has been relieved, a tight iliotibial band may cause a squeezing effect on the sciatic nerve where it passes over the acetabulum.

Lumbago: Lumbago, frequently called muscular rheumatism, is probably an irritation of nerve endings in the back muscles due to metabolic disturbances brought on by over fatigue of the muscles or cold drafts on the back. Pain may be severe. There are definite tender points of the erector spinae muscles that may be felt as nodules. The condition frequently comes on during the night following unusual activity in the stooping position in one who is not accustomed to such activity. It may follow sleeping in a draft. The treatment is heat, massage, and early activity.

X-Rays: X-rays of the back must always include a lateral. The bodies and intervertebral spaces show best in this view. Mild compression fractures of the bodies and slight displacements of spondylolisthesis will be missed without this angle. Lower posterior articulations are best shown in semi-lateral views. A tube tilt of about fifteen degrees toward the feet will give a better view of the sacrum and sacro-iliac joints.

Conclusion: Young adults doing heavy lifting with a history of repeated or prolonged back symptoms are advised to change occupations, if the following conditions are found: Unilateral sacralization of the fifth lumbar vertebra; failure of closure of the posterior arch; malposition of the posterior articulation; spondylolistheisis. In persistent sciatic pain, suspect intraspinal tumor, displaced disks, or malignancy.

A general physical examination should be made when a back case presents itself. The posture, the shoes worn, condition of the feet, occupation and general state of health should be studied. Focal infections may occasionally aggravate a back ache, but we do not promise relief by removal of tonsils and teeth and local treatments of the prostate or uterine cervix. The rational thing to do is to treat these patients as individuals rather than as another back ache.

At times, it may be very difficult to determine the exact cause of a painful back, but there are differentiating points. Many patients are relieved to know that the back ache is the result of bad usage and that it is harmless, that it is not caused by kidney, pelvic or rectal troubles that may seriously impair their health or require an operation. Some of these cases you will want to refer to a good orthopedist.

CRANIAL ANOMALIES

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Feeblemindedness "with developmental cranial anomalies" is a term used to designate oligophrenics with marked deformation of the head and the skull respectively. It is the number 3 of the outline for the clinical classification of mental defectives, which is accepted by the American Association on Mental Deficiency and which is the basic outline for official statistics.

The cases which are grouped together under this denomination have an apparently essential symptom in common, namely the anomaly in size or shape of the head. As a matter of fact however they offer an extreme variety in etiology and in pathology.

Cranial anomalies may result from two basically different conditions. The skullbones may be affected primarily, that is they may be maldeveloped due to a fault in their anlage. Two main forms of such primary malformations of the skull have been described, the craniostenosis and the hypertelorism. Both are *true* cranial anomalies and both are independent of the size and the shape of the brain, which is enclosed in the skull. The socalled cranial anomalies of a second group are merely secondary and are caused by a primary anomaly of the brain. In these cases the skull is normal in its anlage and it would have developed normally too, had it not been influenced by an abnormal brain. This may be either large or distended, therefore forming a hydrocephalic or macrocephalic head, or it may be small, therefore leaving the head small, that is microcephalic.

In dividing up the cranial anomalies one can give the following detailed outline for the clinical classification of mental defectives with misshaped head:

(1) True cranial anomalies
  (A) Craniostenosis
    Oxycephaly
    Scaphocephaly
    Plagiocephaly
  (B) Hypertelorism

(2) Secondary cranial anomalies, caused by anomalies of the brain
  (A) Hydrocephaly
  (B) Macrocephaly
  (C) Microcephaly

Certain storage diseases, viz. the gargoylism, may show cranial and skeletal anomalies.

ad 1) Craniostenosis is a name coined by Virchow and refers to an abnormal narrowness of the skull. The condition is due to a dystrophy of the membranous skull bones, which results in the premature synostosis of one or more sutures. Probably it is hereditary. The different forms are named oxycephaly, scaphocephaly and plagiocephaly, these terms alluding to the shape of the head, which is towered in oxycephaly, boatshaped in scaphocephaly and oblique in plagiocephaly. The actual form depends on which sutures are prematurely closed. The essential feature in all craniostenoses is that the growing brain presses the skull in the direction of the least resistance. In oxycephaly the top of the skull is pressed upwards, the base is pressed downwards and the orbital cavities are pressed outwards and become shallow, in this way producing the marked exophthalmos which is significant for this deformity. X-ray pictures of the skull show pronounced digital impressions, a flattened base and shallow orbitae. The cranial anomaly in these cases is frequently combined with other skeletal malformations, especially with syndactyly of the hands and the feet. The

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From the Lincoln State School and Colony, Lincoln, Ill.
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term acrocephalsyndactyly has been used for this combination. Craniostenoses, in fact, are not only cranial, but skeletal anomalies.

Neurological symptoms may result from the narrowness of the skull cavity. Successful attempts have been made to prevent them by operation. Feeblemindedness is not necessarily connected with craniostenosis, but slight degrees of oligophrenia occur rather frequently. Any large institution for the feebleminded will have some oxycephalic inmates. I show the pictures of two patients of the Lincoln State School and Colony. Both have the typical tower head, and both have syndactyly of the hands and the feet. Both are high grade mental defectives.

Contrary to craniostenosis the condition, which is named hypertelorism, is caused by an abnormal development of the base of the skull. There is a wide separation of the eyes due to an unusually wide nasal bridge. X-ray pictures reveal an anomaly of that portion of the sphenoid bone which originates from cartilage. The greater wings are smaller and the lesser wings are larger than normal. Hands and feet show no malformations. The mentality of these patients is usually on the borderline or the high grade level. I saw one case with a large bilateral coloboma.

ad 2) It seems to be hardly appropriate to group together hydrocephaly, macrocephaly and microcephaly as secondary cranial anomalies. They have nothing in common but the fact, that an abnormal brain influences the growth of the skull. Otherwise they are fundamentally different.

It is easily understood, that a distended hydrocephalic brain forces the skullbones apart, as long as the sutures are not ossified. Microcephaly, on the other hand, proves that the skull needs the stimulation of the growing brain for normal development. If the brain is small and undersized, the skull remains small and its sutures close prematurely. In other words, mic*rence*phaly is the primary condition, and mic*roce*phaly is secondary to it. The truth of this statement can be proved by two facts: very often the micrencephalic brain is essentially smaller than the skullcavity, in which it is enclosed, and furthermore many micrencephalic brains show malformations which certainly have developed in fetal life long before there was any trace of ossification in the skullbones.

I found 8 hydrocephalic and 17 microcephalic brain in exactly one hundred autopsies in Lincoln State School. The age distribution of these cases is interesting. Among 33 postmortems upon children up to the age of five years were five (15.1%) hydrocephalics and nine (27.3%) microcephalics. The percentage was about the same in 13 postmortems upon individuals between six and fifteen years, namely 2 (15.4%) hydrocephalics and 4 (30.8%) microcephalics. However, in 54 autopsies upon persons over fifteen years, only 4 (7.2%) microcephalics and one hydrocephalic were found. Evidently, the life expectancy of individuals with marked anomalies of the brain and with secondary cranial anomalies is low, contrary to the true cranial anomalies which have a good life prognosis.

Hydrocephaly is not a morbid entity. It is a condition resulting from a disturbance in the balance between production and resorption of the cerebrospinal fluid. Either more fluid is produced than can be resorbed, or less fluid than being produced can be resorbed or can reach the places of resorption. The specialized diagnosis and the treatment of hydrocephaly has become a field for the successful activities of neurosurgeons. This is true at least for those patients who do not have a marked mental deficiency. However, cases are not rare in institutions for the feebleminded. 5 of my 8 postmortem cases were probably due to an inflammatory obstruction of the pathways of the cerebrospinal fluid. One case had a spina bifida with Arnold Chiari's malformation. Another one was caused by a slowly growing astrocytoma of the aqueduct of Sylvius and a third one by a cranial hernia. This small series demonstrates the manyfold findings in hydrocephalics. There was, among these 8 autopsies, one of arrested hydrocephaly in a boy of twelve years, who died suddenly from the symptoms of increased intracranial pressure, an acute decompensation of the "third circulation" as Cushing has called the flow of production and resorption of the cerebrospinal fluid.

Macrencephaly is a term used for a rare condition characterized by an oversized, but otherwise normally formed brain. Weights up to 2800 Gms have been described. Most of these brains were taken from oligophrenics; some, however, were found in individuals of normal mentality. Pathologically the condition is a kind of hypertrophy. The head is enlarged, according to the

size of the brain, and it looks like that of an hydrocephalic. A pneumencephalogram, however, will show that there is no distension of the ventricles.

Microcephaly includes a great variety of pathological conditions, in spite of the fact, that the microcephalic patients look rather uniform as far as the size and the shape of the head is concerned. It is not difficult at all, to find a series of patients with small heads, ranging from "pinheads" to those with an almost normal size of the skull. They seem to offer different grades of an anomaly, which starts with very marked cases and gradually reaches the average level. Feeblemindedness is practically always found in microcephalics, and the few cases which have been reported as mentally normal, are of no importance in comparison to the large majority. There is no definite relation between the size of the head and the brain respectively, and the mental level. It is a well known fact, that many microcephalics have a much better intelligence than one would expect from the circumference of their skulls.

The neurological examination of microcephalics, however, suggests that the group is not as uniform as it seems to be. One can find either no neurological symptoms at all, or hemiparesis or paraplegia or a typical decerebrate rigidity. This is a wide variety of symptoms.

The pathologist is the one who gets the real picture. According to the findings upon the brain, three subgroups can be differentiated.

The first one I would like to call nanencephalic brains. Nanos means dwarf; nanencephalic brains are dwarfish brains. They are small without any other anomaly. They are brains "en miniature." These cases seem to be rather rare.

The second subgroup is formed by brains which are small and show, in addition to that, a marked malformation. I would like to call them teratological or malformative microcephaly. This group, together with the nanencephaly, is identical with what is called true microcephaly and by Tredgold primary microcephaly. I would rather avoid these terms. The word "primary," as used by Tredgold, means intrinsic or endogenous. There is no doubt, however, that typical malformations can be the result of environmental, exogenous factors. The descriptive term teratological or malformative seems therefore to be preferable, as it does not refer to etiology.

Different forms of malformations may be present in these small brains, especially those of the gyral pattern, as agyria, pachygyria or microgyria. Heterotopias have to be mentioned here. The corpus callosum may be missing. In fact, all these malformations occur in brains of normal size too, but frequently they are combined with micrencephaly.

The third subgroup is the destructive micrencephaly: it is identical with secondary or exogenous microcephaly. In these cases large portions of the brain have been destroyed and scars and holes, socalled pori, are present. These may be caused by any process, which leads to destruction of brain matter in early life, that is by inflammation, or by a trauma, especially a birth trauma, or by a disturbance of the blood supply, viz. a thrombosis or an embolism. The pathologist, who usually sees but the scar, is often at a loss to explain the etiology.

Porencephaly and early scar formation is not always combined with micrencephaly. A brain which has undergone destruction of larger portions in early life, may either remain small or may reach an approximately normal size. That depends probably on several factors. The time, when the destruction occurred, plays a role. A bilateral scar or porus will lead easier to micrencephaly than an unilateral. Furthermore, a porus which is by a wide gap connected with the ventricular system, will be distended by the pressure of the cerebrospinal fluid, while one with a narrow passage or without communication will have rather a tendency to shrink.

I show two examples of this rather common condition. They are of interest because both are bilaterally symmetrical, therefore causing bilateral neurological signs. It is not always true that destructive processes produce unilateral symptoms. The first brain is that of girl, who died at the age of 22 years. The cerebrum has a weight of 880 Gms. On both sides in the region of the central gyri pori are found, which probably are due to birth trauma or more exactly to a trauma by an obstetrical forceps. The second brain was taken from an eight year old boy. It had a weight of 410 Gms. A bilateral destruction

with formation of pori and large scars was essentially confined to those portions which are supplied by the anterior cerebral arteries. In this case one kidney was small too and its parenchyma was almost completely replaced by a dense scar. Probably the destruction in the brain and the kidney was caused by emboli.

The question arises whether one should classify so many different conditions under the common heading of developmental cranial anomalies. In other words, is the symptom "cranial anomaly" essential and important enough to disregard these differences?

There is of course no doubt, that an outline of classification, which has to serve as a basis for statistics and for a short denomination of actual cases, has to be simple; it can not enumerate every disease and condition. Furthermore, the outline is one for clinical and not for pathological classification. Many diagnoses which can be made at an autopsy, can not be made by an examination of the living patient.

Even a very simplified outline however should use as a basis for classification *essential* symptoms which point to something more than just a superficial similarity. The conditions which are connected with cranial anomalies seem to be too diversified and too different to be grouped under a common heading. Therefore developmental cranial anomalies should disappear and should be replaced by more appropriate denominations, even at the risk of adding some more items to the outline for the clinical classification of mental defectives.

DISCUSSION

R. P. Mackay, M.D. (Chicago): Mr. Chairman and Members of the Association: We are grateful to Dr. Josephy for introducing a rational concept of the cranial anomalies which has clinical value for us. Although his outline is simple, the subject itself is not. The diagnosis of these different types of anomalies, both skeletal and neurological, is quite difficult. Pneumo-encephalography is of considerable value to us in the clinical recognition of some of these different types of cerebral anomalies. Recently a patient two or three years of age in whom we thought we were dealing with a developmental difficulty was shown by pneumo-encephalography to have an enormous porencephaly probably due to damage to the brain either at or prior to birth.

I should like to ask one or two questions of Dr. Josephy. He has mentioned two large groups, one group in which the skull anomaly precedes and the other in which the cerebral anomaly precedes the malformation. What about cases in which both types of anomaly co-exist? I have in mind platybasia, for example, a maldevelopment of the base of the skull in which we often find the osseous malformation associated with malformation of the cord, syringomyelia or other conditions. It would appear in such cases that we have not only a developmental anomaly of the skeletal, but also of the neurological structures not exactly independent of one another but going along concurrently.

Finally, I should like to ask Dr. Josephy's opinion about one or two things as to etiology. This is the field we must consider sooner or later, and I believe we should attack the problem from the standpoint of the mother's metabolism, e.g., deficiencies in the mother's diet, calcium deficiencies, certainly vitamin D deficiency and also deficiencies in the nutrition of the infant and in the oxygenation of the infant during fetal life. This problem has been discussed a good deal by obstetricians but not enough by neurologists. We need a series of experiments on animals in which the pregnant mother is deprived of essential dietary factors and in which, if possible, disturbances of placental circulation and oxygenation are produced in order to determine whether or not we can produce some of these anomalies and thus obtain information on some of the etiologic factors in the human being.

Herman Josephy, M.D. (Lincoln): There are anomalies which are primarily due to a maldevelopment of the bones as well as of the cerebrum. They do not play any important role in mental defectives, and therefore I did not mention them. As to the second question, it should be emphasized that malformation and endogenous are not identical. Very many experiments have proved that malformations can be produced by change of environment. It is important to see this clearly. The only thing what we can do in the field of feeblemindedness, is prevention; we can not cure our patients from the mental deficiency. Prevention can be effective only if we have a clear conception of the etiology.

No one in any community is more impressed by the tragedy of tuberculosis than the practicing physician. No one is more aware of its preventability.

Physicians generally agree that tuberculosis control among the public cannot depend solely on an individual calling his private physician when he suspects that he has tuberculosis. The onset of the disease is too insidious and the mental attitude of the average patient too resistant. By the time the usual patient sees his physician he is already in the moderately or far advanced stage and has probably been spreading the disease for months. Physicians commonly agree that some mass approach to the problem of finding the asymptomatic case is essential. William P. Shepard, M.D., Amer. Rev. of Tbc., Sept. 1944.

THE MEDICAL TREATMENT OF BILIARY TRACT DISEASE

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CHICAGO

Any discussion of the medical treatment of biliary tract disease must revolve around consideration of the exact physiologic status of gallbladder function. There are no procedures which can be uniformly applied to every patient and any effort which requires adherence to routine procedures will meet with failure because the individual variations between patients are not considered. For practical purposes, there are five main varieties of biliary tract disease. These are: the so-called group of biliary dyskinesias, chronic non-calculous cholecystitis, calculous cholecystitis without colic, calculous cholecystitis with colic, and acute cholecystitis with empyema. Inasmuch as the latter condition is essentially a surgical condition, it requires no medical discussion for by and large the consensus of opinion is that acutely inflamed gallbladders should be removed when diagnosed and the situation not procrastinated any more than in acute appendicitis.

Biliary dyskinesia is a rather indefinite diagnosis. It is a diagnosis which is based upon the presence of vague gallbladder symptoms, vague bowel symptoms, no history of colic, and the finding of poorly filling or poorly emptying gallbladders on roentgenologic examination. On physiologic grounds, it seems as reasonable for an individual to have spasm of the sphincter of Oddi as it does for an individual to have spasm of the pylorus or to have bowel spasm. In connection with the establishment of the diagnosis by cholecystography, I think two things should be pointed out: one, that as far back as 1931 Lahey and Jordan found that in 44% of a series of 65 patients with cholecystitis also manifesting signs of colon irritability, the gallbladder would fill normally after from five to ten days of bowel management where-as with the same intravenous dye technique it had previously shown an absence of or an inadequate filling; the second point to be made is that we are probably going to see more satisfactory gallbladder visualizations than has previously been our opportunity through the use of more satisfactory gallbladder dye for oral administration. Dr. Hollis E. Potter has recently commented to me on his experience with Priodax, a new gallbladder dye in tablet form, which produces much less gastro-intestinal irritation, no vomiting, almost no diarrhea and which almost uniformly has resulted in more satisfactory gallbladder visualization than those obtainable with other forms of gallbladder dye. Perhaps, with better visualization technique, we will be able to make the diagnosis of biliary dyskinesia with a lesser degree of frequency. The group of patients reported by Lahey and Jordan makes one wonder as to whether the predominant features of the disturbance are those originating from an irritable bowel rather than those originating from the gallbladder. From the standpoint of the management of these individuals, however, they should respond ideally to the use of antispasmodics, a high fat, bland diet, and the administration of bile salts. Concerning the latter, it has been the experience of Dr. Clarence F. G. Brown and myself that oxidized bile salts are much better tolerated than the unoxidized bile salts given in the form of dried oxbile.

Chronic non-calculous cholecystitis, it is our belief, is primarily a medical problem. At least, it should remain such within limitations until our surgical colleagues can demonstrate more satisfactory results ofter cholecystectomy. By and large the weight of statistics, those of Graham and Mackey, Stanton, Judd and Priestley, and others would indicate that in cases of chronic cholecystitis without typical attacks of biliary colic and with a stoneless gallbladder, cholecystectomy is apt to give unsatisfactory results in from 40 to 50 percent of the cases. From the standpoint of management, these individuals again should respond to a conservative regime of a bland diet with uncooked fats allowed up to the point of the individual's tolerance, the use of antispasmodics and the use of bile salts. These principles we will discuss in detail subsequently.

The third group of patients are those who have cholecystitis with calculi and without colic. These usually are individuals in whom the stones may be discovered adventiously during the course of some other examination or who have a large single solitary calculus within the gallbladder which remains quiescent and produces little in the way of symptoms. From the standpoint of

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management of these individuals as medical problems, there are three considerations which must be borne in mind: 1. The older the patient gets the greater is the mortality should surgery become necessary. Many of these individuals, however, have no symptoms and the gallbladder lesions are discovered as incidental findings on post mortem examinations when death is due to other causes. The second consideration is that not a small proportion of these individuals will develop complications such as fistula between the gallbladder and adjacent viscera as the result of pressure erosion by the large stone. Gallstone ileus occurs relatively uncommonly, however, statistics published by Walters of the Mayo Clinic indicate that gallstone ileus accounted for one percent of all obstructive lesions of the bowel. McQueeny reported gallstone ileus occurring with an incidence of two percent or 149 cases in a series of 7,232 cases of intestinal obstruction. The last consideration is that there is an increasing weight of evidence that perhaps carcinoma of the gallbladder occurs more frequently in stone-bearing gallbladders than in others. From the standpoint of medical management, if an individual has no symptoms he would not be very amenable to suggestions of a cholecystectomy. Conservative management would entail periodic supervision together with a management which would tend to keep the individual out of trouble. Such measures would consist of efforts to prevent spasm through the constant use of an antispasmodic; efforts to regulate bowel habits through the use of a bland diet so as to prevent any reflex spasm of either bowel or common duct sphincter; and lastly, careful adjustment of the uncooked fat content of the diet so as to prevent unnecessary gallbladder stimulation. The use of bile salts in such patients particularly with large solitary calculi would probably achieve nothing.

It is our opinion that such individuals even though they have calculous cholecystitis with small stones and no previous history of colic do better when efforts are made to adjust their management to their own particular level of tolerance rather than on some arbitrary basis.

The last group of individuals who have gallstones and who have frequent or repeated attacks of colic, it is our opinion should be subjected to cholecystectomy. They may be temporized for vague and indefinite periods of time by medical procedures but by and large ultimately surgical removal of the gallbladder will be the only means of permanently achieving relief. Some seven years ago Dr. Clarence F. G. Brown and myself reported on a group of individuals with all varieties of gallbladder disease whom we attempted to follow with a medical regime consisting of antispasmodics, careful dietary control, the use of a high uncooked fat diet and the use of ketocholanic acids in the form of ketochol. By and large, most of the patients on whom we reported at that time who had multiple biliary calculi have now been operated upon. From the standpoint of temporizing situations in which surgery may be inadvisable, the management is quite satisfactory and preferable to the orthodox procedures of treating gallbladder disease.

With the exception of gallbladders which contain calculi in which one's decisions are based completely upon what the patient does, the principles involved in treating gallbladder disease can be briefly summed up as follows:

1. Prevention of spasm — this is achieved through the use of antispasmodics in which the chief reliance should be placed in atropine or atropine derivatives such as belledonna. Some of the synthetic antispasmodics such as Pavatrine or Trasentine have an indeterminate value. Spasm can further be prevented by the control of diet. Usually associated with gallbladder disease there are manifestations of bowel irritability. Cathartics should be avoided. A bland diet with uncooked fat added, dependent upon the acuteness of the symptoms and the individual level of fat tolerance usually suffices for the purpose.

2. Facilitation of gallbladder emptying — is the second principle of management to be achieved. This is accomplished both by the prevention of spasm and by the supplemental addition of uncooked fat. In this connection it must be borne in mind that the reason why people with gallbladder disease or with irritable bowel syndrome or with duodenal ulcer are unable to tolerate cooked fat is because in the process of cooking, the fat is oxidized from neutral fat to fatty acid in which form it acts as a gastric irritant. Uncooked fats such as butter, eggs, cream, or cheese are usually tolerated. The use of such physiologic stimulants to gallbladder contraction and emptying must be borne in mind

and their use guided by the patient's ability to tolerate such stimulation. Many of our patients were placed upon hourly feedings of milk and cream and got along much better than when fats were totally restricted.

3. The third factor consists of efforts to increase the flow of hepatic bile through the use of bile salts which act directly upon the liver cells. In our opinion greater choleresis is achieved with the use of oxidized bile salts. Further, fewer signs of intolerance occur with this form of bile salts than with the unoxidized forms.

These principles of management differ from the widely used low fat, low cholesterol diet associated with the administration of magnesium sulfate or other saline cathartic. If gallbladder stasis is to be overcome, the most physiologic method of inducing gallbladder evacuation — the presence of fat in the duodenum, is totally disregarded. The low fat diet places the gallbladder at rest whereas the magnesium sulfate causes relaxation of the sphincter and gallbladder emptying. There seems to be little logic in abandoning a physiologic method of inducing gallbladder emptying and substituting an artificial mechanism. Furthermore, according to Ivy the concensus is that magnesium sulfate is not as effective as a chologague as is egg yolk, cream or olive oil. Despite the fact that people with diseased gallbladders are commonly chronically constipated and magnesium sulfate does not have a cathartic action, the end result of its continued use is generally the development of a highly irritable bowel with accompanying reflex pylorospasm to add to the original complaints referable to the gallbladder. Studies by Fox, Gardner, Gainsborough, McMaster, Elman and others indicate the cholesterol in the diet has no relation to either the blood or bile cholesterol levels. There would appear to be little object, therefor in limiting foods high in cholesterol.

As long as gallbladder disease is present, the measures designed to improve gallbladder function and prevent spasm must be maintained. These measures enable an individual to get along with their disease in the same fashion that dietary control and the use of insulin allow a diabetic to live a relatively comfortable life. We think we know why human beings form gallstones as do the ox and hog, whereas sheep and dogs almost never form gallstones, but so far we can do nothing to alter this metabolic difference in the chemical constituents of the bile.

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NEW METHOD FOR REDUCING EXCRETION OF PENICILLIN IS EFFECTIVE

A method whereby the amount of penicillin required for effective treatment can be reduced or the concentration of the drug in the blood stream can be maintained and which had previously been tried successfully on dogs has been found satisfactory for human beings, Karl H. Beyer, M.D.; Harrison Flippin, M.D.; W. F. Verwey, D.Sc., and Roland Woodward, B.S., Glenolden, Pa., report in *The Journal of the American Medical Association* for December 16.

One of the disadvantages of penicillin treatment is the great rapidity with which the drug clears from the blood stream and appears in the urine. In the new methods the penicillin, in a solution of sodium para-aminohippuric acid instead of in a glucose solu-aminohippuric acid is a member of a group of compounds which increase the excretion of urine.

The four investigators explain that when the compound is administered simultaneously with penicillin it competes with penicillin for the same excretory mechanism in the kidneys. By so doing the rate of elimination of penicillin by the kidneys is much reduced thereby slowing considerably the rate of fall of the concentration of penicillin in the blood stream. The original work was done on dogs.

"In view of the widespread interest in the research," the four men say, "and the implications of the possible therapeutic efficacy of the combination. it was decided to obtain data on a few patients to determine whether the simultaneous administration of para-aminohippuric acid with penicillin did produce an elevated plasma concentration of the antibiotic agent. Such a program would also permit us to study the patients carefully for any untoward reactions to the therapy so that we might be able to call these effects to the attention of other investigators."

The tests were made on 9 patients. In every instance the administration of para-aminohippuric acid with penicillin caused at least a twofold increase in the plasma level of penicillin. The penicillin concentration was in direct relationship to the para-aminohippuric acid concentration. When the latter was highest the penicillin level was increased more than fivefold.

"The combination of penicillin and para-aminohippuric acid therapy," the investigators say, "cannot be said to have influenced deleteriously the physical condition, the blood picture or the illness of any of the patients. . . ."

Physical Medicine Abstracts

John S. Coulter, M.D.

POST-TRAUMATIC PAIN AND THE CAUSALGIC SYNDROME

J. Doupe, C. H. Cullen and G. Q. Chance. From the Winwick E.M.S. Hospital, Nr. Warrington. In JOURNAL OF NEUROLOGY, NEUROSURGERY AND PSYCHIATRY, 7; 1 & 2; 48, January and April, 1944.

It is not uncommon, especially in wartime, to be faced by patients complaining of persistent severe pain in the hand or foot following an injury to a limb, despite the absence of the apparent cause. It is with such cases that the present paper is concerned. Excluded from consideration are cases in which post-traumatic pain arises from tender neuromata or obvious vascular abnormalities.

SUMMARY

It was noted that there was a need for a clearer definition of post-traumatic pain.

An attempt has been made to define the causalgic syndrome, using as a basis a theory of the mechanism of production of the symptoms.

This theory ascribed the peculiar qualities of causalgic pain to stimulation of sensory fibres by efferent impulses in the sympathetic fibres.

Evidence in favor of such a linkage was obtained from a study of the reactions to a variety of stimuli and from the results of peripheral nerve, nerve root, and sympathetic chain block.

Two types of causalgic syndrome were described depending on whether the site of conjunction of the sympathetic and sensory fibres was proximal, i.e. at the site of the nerve lesion or distal, i.e. near the termination of the fibres.

It was considered possible that the distal type could occur as a result of some disturbance of metabolism due to oedema, ischaemia, or some other factor determined by injury to the limb as opposed to a primary injury to the nerve trunk.

A series of cases exhibiting post-traumatic pains was reported, and these were grouped under the terms psychogenic, causalgic, and dystrophic.

Comment was made on the vascular and nutritional changes with particular reference to osteoporosis. This reaction was considered to be non-specific, and it was shown to occur independently of the peripheral nervous system.

RECONDITIONING NOTES

In THE BULLETIN OF THE U. S. ARMY MEDICAL DEPARTMENT, 81; 31, October, 1944.

A program to prepare neuropsychiatric patients for return to military duty or to civilian life in the best possible physical and mental condition was announced on 6 August. Those men with psychiatric disturbances will participate in carefully organized convalescent activities under the guidance of psychiatrists. Patients will be permitted sufficient latitude to pursue, as far as possible, interests that will be useful in later Army careers or in civilian life. They will wear duty uniforms instead of hospital garb, and they will be under military discipline. The schedules will include physical reconditioning and occupational, educational, and recreational therapy. Any patient who has a remote chance of being salvaged for additional military service will be given a trial in reconditioning.

Mission of Reconditioning Program. — The mission of the reconditioning program is to accelerate the return to duty of convalescent patients in the highest state of physical and mental efficiency consistent with their capacities and the type of duty to which they are being returned. Should a soldier be disqualified for further military service, the reconditioning program must

provide for his return to civilian life, conditioned to the optimum state of physical fitness, well oriented, and indoctrinated in the duties of citizenship. The mission is accomplished by the use of physical reconditioning, educational reconditioning, and occupational therapy.

Physical reconditioning is the process aimed at the prevention of physiologic retrogression during convalescence and directed toward the restoration of full strength and stamina through participation in progressively graded physical activities.

Educational reconditioning is the process of exciting, stimulating, and activating the mind through education, orientation, and information, thereby encouraging a mental attitude conducive to health and normal activity.

Occupational therapy is that form of treatment characterized by assignment to purposeful physical tasks, prescribed for restoration, of function to injured or diseased muscles, tendons, nerves, and joints, for emotional instability, or prescribed as diversional activity.

PHYSICAL THERAPY IN AFTERCARE OF AMPUTATIONS OF LOWER EXTREMITY

Signe Brunnstrom, Lieutenant, Junior grade W-V (S) (H) U. S. N. R. In NAVAL MEDICAL BULLETIN, 43;4;644, October, 1944

1. Importance of correct bed posture immediately following amputation is stressed.

2. Knee flexion, hip flexion and hip abduction contractures must be guarded against.

3. Straight alinement of pelvis and thighs is obtained by "squaring" the pelvis, by avoiding the use of a pillow under the stump, and by encouraging the prone position.

4. Active nonweight-bearing exercises are begun at an early stage. All parts of the body are exercised. The motions of knee extension, hip adduction and hip extension are particularly emphasized.

5. When attempting to overcome contractures, manual stretching of tight muscles is avoided. Instead the pattern of "reciprocal innervation" is made use of to secure relaxation.

6. True contractures, involving capsule and ligaments, are overcome by the application of plaster or by continuous traction.

7. The early use of a pylon is recommended.

NOVOCAINE IONTOPHORESIS FOR PAINFUL LIMITATION OF MOTION

William Benham Snow, M.D., and Hans Kraus, M.D. In THE MILITARY SURGEON, 95;5;361 November, 1944

The common indication for novocaine iontophoresis combined with active exercise is limitation of motion by pain and muscular spasm. Such conditions are:

1. Sprains of all joints.

2. Acute muscular spasm such as is found in bursitis, lumbago, strained muscles, certain cases of low back pain, and the like.

3. Chronic muscular spasm found in such conditions as chronic "low back pain," sciatica, chronic shoulder spasm. In the last group, however, results are not as readily obtained as in the first two groups.

4. Novocaine iontophoresis and exercises may used as a diagnostic therapeutic test while major surgical procedures are being considered. When so used, prompt reversal of symptoms may frequently be obtained.

The technique of the treatment is as follows: A solution of 1% novocaine hydrochloride and 1/20,000 adrenalin in 80% alcohol is prepared. The treatment area is determined. This treatment area must always be considerably larger than the area of pain distribution. A gauze pad of two to four layers is soaked in the solution and placed over the treatment area. A crash towel folded once or twice, soaked in saline, is then spread over the gauze and a flexible metal electrode is placed over it. This metal contact must be smaller than the area of the towel and care must be exercised that no metal touches the patient's skin. The positive pole of a source of galvanic current is attached to the metal electrode. This combination electrode is carefully fixed in place with sandbags or bandages. A neutral electrode of approximately the same size, moistened with weak saline is connected with the negative pole. The current is slowly applied and increased to 20 milliamperes and permitted to flow for 20 minutes. The current is then gently reduced to zero and the electrodes are removed. The area treated usually shows blanching. Surface analgesia is present and remains for approximately three to four hours over the area treated. This represents the preparation making possible the effective treatment which is to follow.

CONVALESCENT RECONDITIONING

Colonel Augustus Thorndike, Chief of the Reconditioning Division Office of the Surgeon General, U. S. Army

In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 126;12;773 November 18, 1944

Reconditioning, which has been described as planned convalescent care, was inaugurated by the Surgeon General of the U. S. Army Medical Department in a War Department order dated Feb. 11, 1943.

Reconditioning is accomplished by the scientific scheduling of a program for mental and physical restoration according to the needs and abilities of each individual patient.

The Surgeon General's Reconditioning Program is divided into four main phases: physical, educational, occupational and recreational. The physical portion of the program is designed to allay the deteriorating factors coincident with recumbency in bed by the use of special bed exercises designed to maintain body tone and vigor and, when indicated, is often focused to strengthen a particular portion of the body. As the patient's strength increases and he becomes ambulant, these exercises are gradually increased in tempo and dosage and are supplemented by various types of athletic games and recreational sports. Physical therapy, when indicated, is coordinated with this regimen.

The educational phase of the program is designed to effect orientation to personal problems incident to illness and disability, instil the will to fight in those who will return to duty and to aid the adjustment of the discharged soldier to resume his civilian status.

The orientation portion of the program is one of the most important, as the soldier returned from an overseas hospital generally finds the adjustment to life at home perplexing.

Occupational therapy is an important part of the treatment of many patients. It is used both as a functional and as a diversional type of therapy. Efforts are made to integrate closely the educational activities with the occupational in order to double the effect of each.

Recreation is recognized as a valuable part of a well organized program.

Various articles have recently been published showing that complete bed rest is ill advised in a great many types of medical, surgical and mental conditions.

PRESENT STATUS OF EYE EXERCISES FOR IMPROVEMENT OF VISUAL FUNCTION

Walter B. Lancaster, M.D., Boston

In ARCHIVES OF OPHTHALMOLOGY, 32;3;172, September, 1944

There is abundant evidence for the general proposition that exercises, repetition, practice and learning lead to better performance, to the acquisition of skill. Many ocular conditions exemplify this law. Since seeing is only partly a matter of the image on the retina and the sensation it produces, but is in still larger part a matter of the cerebral processes of synthesis, in which memories play a principal role, it follows that by repetition, by practice, by exercises one builds up a substratum of memories useful for the interpretation of sensations and facilitates the syntheses which are the major part of seeing. Also motor functions are perfected by practice, by learning, and reflex pathways are facilitated. Ophthalmologists have neglected this field and have concentrated their attention on the primary source of the sensation, the image on the retina, leaving to irregular, half-trained workers the cultivation of that field. The achievements obtained by the clumsy practices which have been developed should stimulate ophthalmologists to investigate and discover the valuable possibilities in this field which, I am convinced, await intelligent development. Finally, in assessing the value of exercises it must not be forgotten that many patients have a neurotic or psychic element and that such patients are often favorably affected by hocus-pocus. Do not make the mistake of thinking that this is the whole story.

I have said nothing about actual structural changes which are wrought by exercises, other than hyperplasia and hypertrophy of muscles and the consequent changes induced in tendons, and perhaps in bones. Frankly, I am skeptical of such an effect. A clearing of corneal opacities often occurs to a rather slight degree, but not by means of exercises. I doubt whether any changes in size or shape of the eyeball are brought about by such means. Certainly, the burden of proof is on those who make such claims. Permit me to quote Jesus, who said: "Which of you by taking thought can add one cubit unto his stature?"

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES

By
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1. VON RECKLINGHAUSEN'S NEUROFIBROMATOSIS WITH NEUROFIBROSARCOMA OF MEDIASTINUM.

A white woman aged 36 years entered St. Luke's Hospital on August 25, 1944 in the care of Doctor Carl Ireneus, Jr. For two years she had had intermittent pain in the right side of the chest which during the last three months had become continuous. It was relieved slightly by change in posture and was associated with a progressively severe non-productive cough. The patient had lost 16 pounds in weight during six months. The physical examination revealed multiple soft cutaneous nodules and large regions of brown pigmentation of the skin over the trunk and extremities, and signs of consolidation in the upper portion of the right side of the chest. The leucocytes of the blood were 5,200 and the erythrocytes 4,100,000 per c. mm. and the hemoglobin 11.6 gm. percent. The roentgen film of the chest had a large shadow in the upper three-fourths of the chest. Bronchoscopic examination demonstrated external compression of the right main bronchus. An exploratory thoracotomy on August 28, 1944 disclosed a large firm tumor of the upper portion of the right pleural space, adherent to the mediastinum and compressing the lung. Tissues removed were diagnosed neurofibrosarcoma. In spite of supportive care the patient became more cyanotic and dyspnoeic, developed edema of the right arm and died on September 7, 1944.

The essentials of the anatomic diagnosis of the postmortem examination (trunk) are as follows:

Huge neurofibrosarcoma of the mediastinum with extension into the right pleura;

Neurofibrosarcoma invasion of the right lung and mediastinal lymph nodes;

Compression atelectasis of the lungs;

Generalized neurofibromatosis of the subcutaneous tissues (Von Recklinghausen's disease);

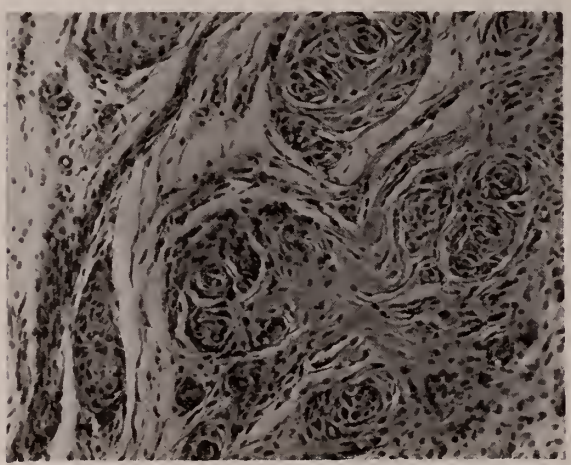
Multiple small thrombi of the branches of the pulmonary artery and infarcts of the left lung;

Acute bilateral fibrinous pleuritis and pericarditis.

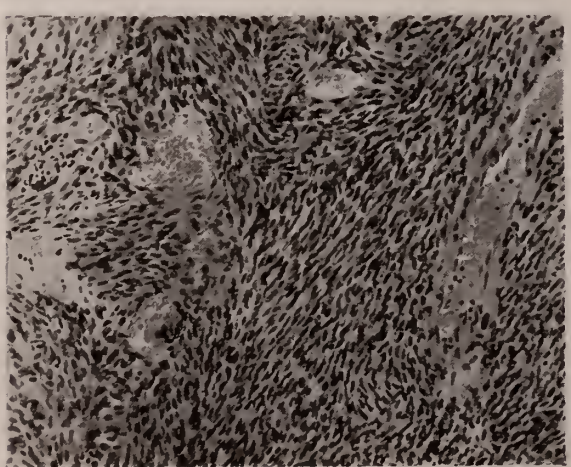
The body weighed 115 pounds. Many soft nodules ranging to 0.6 cm. diameter were scattered in the subcutaneous tissues of the trunk and extremities, and one 2.5 cm. in diameter 10 cm. below the right mammary gland was surrounded by a region of ecchymosis. A healing surgical incised wound 27 cm. long extended from near the midline at the level of the 2nd thoracic spinous process and curved laterally to the right mid-axillary line over the 6th rib. A firm mass of tissue 10 by 10 cm. and elevated 2 cm. was above this surgical wound. A large firm grey encapsulated tumor filled the upper two-thirds of the right pleural space. It extended to the midline and from the apex 20 cm. and was 15 cm. in dorso-ventral diameter. The mediastinum was displaced to the left and the right lung was compressed into the lower third of the pleural space. The tumor was adherent



Case 1, Figure 1. — Photograph illustrating the huge neurofibrosarcoma of the thorax compressing the lung.



Case 1, Figure 2. — Photomicrograph illustrating a portion of the tumor with modified nerve fiber structures. (x-198)



Case 1, Figure 3. — Photomicrograph illustrating the growth of spindle cells in the sarcoma tissues. (x-198)

to the parietal pleura at the apex by easily torn fibrous adhesions but medially and below by dense fibrous tissues. The right lung was adherent to the tumor and the anterior chest wall by dense fibrous and elsewhere by fibrinous adhesions. The pericardial sac and heart were displaced to the left, markedly compressing the left lung. There were fibrinous adhesions between the left parietal and visceral pleurae. The pericardium had a fibrinous exudate. Most of the right 5th rib had been removed, and the 4th and 6th ribs were drawn together. The periaortic thoracic and abdominal lymph nodes ranged to 2 cm. diameter. The superior and inferior venae cavae were compressed by the tumor tissues. The tumor weighed 2350 gm. It consisted of firm grey fibrillar tissues with many protruding nodules up to 4 cm. diameter. Surfaces made by cutting were firm fibrillar tissues with yellow foci and recent hemorrhages. Most of the right lung was atelectatic, a small portion was subcrepitant.

The pleura of the compressed left lung was slightly roughened with fibrin. A large branch of the pulmonary artery to the lower lobe had an obturator thrombus and beyond were hemorrhagic infarcts of the lung. There was marked atelectasis. The changes in the visceral tissues of the trunk otherwise were incidental.

COMMENT

The clinical history and conditions demonstrated by the postmortem examination are characteristic of systemic neurofibromatosis in which in this patient an intrathoracic growth progressed into sarcoma.

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2. RIGHT THORACIC SARCOMA.

A negress aged 45 years entered St. Luke's Hospital on August 23, 1944 in the care of Doctor Charles E. Shannon and died on September 20, 1944. Doctor Shannon had removed a mass the size of a grape fruit from the left breast in 1937. This was reported as a large fibroadenoma of the mammary gland. She was well until June 1944 when attacks of pain in the upper right quadrant of the abdomen appeared. The pain became continuous, spread into the right chest and upper extremity and dyspnoea developed. When admitted she was dehydrated, incoherent and disoriented. There was an old healed scar of the left mammary gland but no



Case 2, Figure 4. — Photograph of a section of the thoracic wall illustrating the sarcoma infiltration of the intercostal tissues. Sarcoma tissues penetrated into the bone marrow of the ribs.

new growth of tissues. The right side of the chest was dull upon percussion and the breath sounds below the fourth interspace were absent. The heart borders were displaced to the left. A dense shadow in the roentgen films obliterated the right lung field and ribs. The left lung field was narrowed slightly. There were 4,460,000 erythrocytes and 13,600 to 20,000 leucocytes per c.mm. An electrocardiogram was compatible with myocarditis. On 8-30-44, 650 cc. of brown fluid were aspirated from the right side of the chest. Tumor cells were not found in the sediment. On 9-7-44 a tumor mass of the right mammary gland was removed and the tissues were reported as sarcoma invasion of the right mammary gland. The patient grew worse and died on September 20, 1944.

The essential portions of the postmortem examination (trunk) are as follows:

Sarcoma of the right side of the thorax;

Sarcoma invasion of the soft tissues in the anterior portions of the right side of the thorax, the intercostal muscles, the ribs, and the right parietal pleura;

Metastatic sarcoma of the diaphragm, mediastinum, myocardium of the right auricle of the heart, the pericardium, the abdominal and thoracic periaortic lymph nodes, the right lung, the tracheobronchial and right peribronchial lymph nodes;

Sarcoma tissue compression of the aorta, vena cava, azygos veins and thoracic duct;

Marked right sero-hemorrhagic pleuritis;

Sero-fibrinous pericarditis;

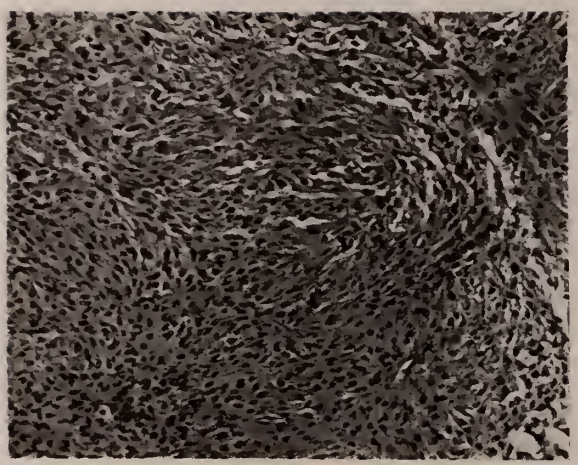
Slight ascites;

Hyperemia, edema, and bronchopneumonia of the left lung.

The left side of the chest had an old surgical scar, 31 cm. long over the mammary gland region. The right mammary gland laterally had a recent repaired surgical incised wound 5 cm. long. The axillary lymph nodes were 1.5 cm. maximum diameter and contained hyperemic tissues. The right pleural space contained approximately 2 liters of a brown fluid stained with blood; the left pleural space had no fluid and there were only a few fibrous adhesions between the apex of the left lung and the chest wall. The right lung was markedly compressed against the mediastinum and all of the mediastinal structures were shifted to the left. The linging of the pericardial sac and the epicardium were roughened by fibrin and on the right side by nodules of grey tumor tissues. The right parietal pleura was thickened to 1.5 cm. by grey tumor tissues that extended between the ribs into the pectoral muscles, and also into the mediastinum. The periaortic abdominal lymph nodes had extensive metastases and were fused into a continuous mass of tumor tissues. The left common iliac vein had a mural thrombus 4.5 by 2 cm., liquefied in the center, and continuous with one in the inferior vena cava 13 cm. long and 2 cm. in diameter. The right lung weighed 1300 gm., the left lung 360 gm. The pleura of the right lung was thickened by grey tumor tissues and the lung compressed to a



Case 2, Figure 5. — Photograph illustrating the invasion of the right lung by sarcoma tissue.



Case 2, Figure 6. — Photomicrograph illustrating the structure of the sarcoma. (x-198)

mass about 20 by 7 by 4 cm. The lower lobe had many masses of tumor tissues, some in discrete nodules 3 cm. diameter, others diffuse or confluent masses with only residues of basic lung tissues. The main bronchus near the hilum and its divisions were encompassed by these tissues. The linings of the right pulmonary artery, the veins, and their branches were not unusual. The left lung was subcrepitant but without tumor tissues.

COMMENT

The growth of sarcoma in the tissues of the right side of the thorax is considered to be independent of the fibroadenoma mass removed seven years before. The chief reason for this opinion is the entire absence of recurrence at the site of removal and the extensive diffuse growth of the tumor tissues in the parietal and visceral tissues of the right side of the chest.

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3. CHRONIC RHEUMATIC MITRAL TRICUSPID AND AORTIC ENDOCARDITIS.

A dentist aged 55 years entered St. Luke's Hospital on August 31, 1944 to the service of Doctor N. C. Gilbert with a history of recurrent attacks of rheumatic fever from the age of 10 years. During the last four years he had increasing weakness, dyspnoea, and a loss of 35 pounds in weight, and for a year edema of the ankles. He was thin, orthopnic and cyanotic. His blood pressure was 122 mm. Hg. systolic and 78 mm. diastolic, the pulse 100 per minute and regular. The heart was enlarged to near the anterior axillary line, and a loud systolic murmur was transmitted to the axilla. The veins of the neck were engorged, both lungs had rales and the liver was large. The erythrocytes of the blood were 5,000,000 and the leucocytes 8,100 per c. mm., the hemoglobin 15 gm. percent. An electrocardiogram demonstrated sinus tachycardia and right axis deviation. The patient grew worse gradually and died September 30, 1944.

The essential portions of the anatomic diagnosis of the postmortem examination (complete) are:

Chronic fibrous (rheumatic) endocarditis of the leaflets of the mitral tricuspid and aortic valves;

Marked mitral and tricuspid stenosis;

Obliterative calcified fibrous pericarditis;

Mural thrombosis of the right auricular appendage of the heart;

Multiple embolic infarcts of the lungs;

Hypertrophy of the myocardium of the right and left ventricles and dilatation of the chambers of the heart;

Chronic passive hyperemia of the liver, kidneys, and spleen;

Chronic fibrous pleuritis;

Huge bilateral hydrothorax;

Compression atelectasis of the lungs;

Ascites; anasarca.

The important changes demonstrated by the postmortem examination were associated with the heart. The right auricle and ventricle were dilated and the wall of the ventricle hypertrophied. There were small mural thrombi of the right auricular appendage. The leaflets of the pulmonic semilunar valve were thin, the ring under slight tension was 9 cm. in circumference. The tricuspid ring was wide. The left auricle and auricular appendage were markedly dilated, the lining was smooth. The leaflets of the mitral valve were fused and markedly thickened by fibrous tissues, portions calcified. The opening was a slit about 3 cm. long scarcely admitting the tip of a finger. The cordae tendineae were thickened by fibrous tissues and markedly shortened. The free margins of the aortic leaflets were thickened slightly by fibrous tissues. Along the line of closure was a slight fibrous thickening and on the posterior cusp was a small verrucous nodule just below the node of Arantii. The circumference of the

aortic ring under slight tension was 8 cm. The length of the left ventricle from the mitral ring to the apex was 7.5 cm. and from the aortic ring to the apex it was 8.5 cm. The thickness of the myocardium of the left ventricle ranged between 1.1 and 1.5 cm. Surfaces made by cutting the myocardium had slight fatty changes. The lumen of the coronary arteries was widely patent, the linings had a few fatty plaques. The heart with 2 cm. each of pulmonary artery and aorta weighed 530 gm. Both lungs were compressed and had scattered recent hemorrhagic infarcts ranging to 3 cm. diameter projecting slightly above the pleural surface and covered with fibrin. Branches of the pulmonary artery to these infarcts in each lung had adherent grey thrombi. The changes in the viscera otherwise were mainly those of chronic passive hyperemia.

COMMENT

This patient had a long clinical history of recurrent attacks of rheumatic fever from the age of 10 years until his death at 55 years. With individual care and medical management, adequate cardiac function was maintained over many years. The postmortem examination disclosed that the mitral valve, as is common in these patients, had suffered the most marked changes, and gradually severe myocardial damage had occurred.



Case 3, Figure 7. — Photograph of a cross section of the heart above the level of the mitral ring illustrating the chronic deforming calcified endocarditis of the mitral valve with mitral stenosis, and the less marked tricuspid stenosis.

THE PREVENTION OF MEASLES

Human immune serum globulin, one of the fractions or components of blood plasma, is the material of choice in the prevention and modification of measles, Morris Greenberg, M.D.; Samuel Frant, M.D., and David D. Rutstein, M.D., New York, report in *The Journal of the American Medical Association* for December 9. Their report is based on a study of the comparative effectiveness of human immune serum globulin, which they call gamma globulin, and of placental globulin, obtained from the placenta. The use of placental globulin in the prophylaxis of measles was first introduced in 1933. Gamma globulin, one of the discoveries of our war research program, was used exclusively by our armed forces until last summer when a sufficient supply became available for its distribution to the public.

The three investigators say that gamma globulin was administered to 814 children between the ages of 6 months through 6 years who were in contact in their households with others who had measles. None developed regular measles, 78.7 per cent were completely protected and 21.3 per cent had modified measles. Among the latter 92 per cent were mild and 8 per cent moderate. There was a tendency for the effectiveness to decrease with age. Untoward reactions were rare.

Placental globulin was administered to 90 similar contacts. Severe measles occurred in 23.3 per cent, 38.9 per cent were completely protected and 37.7 per cent had modified measles. Among the latter 70 per cent were mild and 30 per cent were moderate. Reactions occurred in 41 per cent of those injected.

In a group of 65 contacts who received no prophylaxis 83 per cent developed measles, 31 per cent being severe, 12 moderate and 10 mild.

The three physicians point out that convalescent serum for measles is not as readily available and the comparatively large doses which are necessary make its use unpractical.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P. Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

USE OF INDUSTRIAL INCENTIVES IN WAR PRODUCTION OF MEDICAL MATERIEL

Captain Ernest Risley Eaton (MC), U.S.N.R.*

"The advent of this war compelled industry to concentrate its attention sharply on securing maximum production in a brief time and in accordance with specifications and schedules drawn up for it by military-trained experts. The populace at large became increasingly conscious of work in defense plants, the buying of War Bonds and the rationing of food, clothing and gasoline. Men who did not volunteer were drafted into military service.

"In response to the appeal of President Roosevelt, American production darkened the sky with planes and at every shipbuilding center multitudes of all classes of ships slipped down the ways. American industry converted its factories from the pursuits of peacetime to high speed war production. From being a producer of peacetime merchandise, American industry transposed itself into the greatest producer of wartime machinery and equipment. Production went to war.

"The most pressing task that now lies in the nation's hands is increasing war production without materially increasing the number of employees, for the bottom of the man power barrel has almost been reached. An increasingly severe shortage of man power marks many of the war production plants on which the fighting forces depend for vital weapons. Unless this man power shortage can be alleviated, we are in grave danger so far as our war effort is concerned. Since there are no reenforcements, we must use what we have. The task, then, is to secure more work from each and every man and woman — fewer of them making more out of less. That is the task that lies in our hands, and I mean our hands.

"Workers should be paid well and not grudgingly. However, the more they earn, the more earnestly they should apply themselves to their jobs and make a good record. In Russia, every civilian, man, woman and child, stands ready to do as much in service for his country as do the soldiers. A ditch needs to be dug for military reasons, and the whole community turns out and digs it — without pay. This is a national service law of the right kind. What about our sons who go in planes over Germany and the Pacific Islands and some of whom never return? A people at war should not have to be paid, Hessian like, to do their duty.

"In the truest sense, each one of us is enlisted in the biggest business of today, the crushing of the militarist criminals of Tokyo and Berlin in order that we shall win this war and be saved from economic, religious, political and social slavery. We are all of one mind about this and know that in this war we have not yet settled accounts to our own satisfaction. If labor and management have a desire to do their parts and share in that visitation to come for offenses committed against us by our enemies, each must do his duty. In order to do our part, each and every one of us must have a job and

*An address delivered before the Industrial Incentive Conference, Washington, D. C., May 1, 1944.

This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the United States Navy. The opinions and views set forth are those of the writers and are not to be construed as reflecting the policies of the Navy Department.
*Published in War Medicine, Oct. 1944 (Parts of article deleted)

the job must be done in such a manner as to be our best, that it may count the most. If we back the attack with a better industrial system than our enemies, we shall win this war.

"Labor turnover must be reduced if maximum output per employee is to be obtained. When a man is inducted into the armed forces, as you know, he is given three months of basic training. This toughens him up and makes him better fitted for the job at which he is kept until he is put to the test. We have been at war since Dec. 7, 1941 — long enough for each person at a single job to have gained experience enough and to have had basic training sufficient to render a real service in the winning of this war. Workers should be trained to a fair degree of efficiency — organized, contented and prosperous.

"An unusual incentive was noted in a factory of more than five thousand employees making medical supplies. There, in order to secure additional workers, employees are paid $6.50 immediately for each new person persuaded to come to work. Another $6.50 is paid three months later if the newcomer is still working.

"One of the headaches and part of the symptom complex of the industrial disease called the "growing pains" of industry is absenteeism. This factor usually ranges from 3 to 5 per cent, except when the winter months usher in the prevalent colds and grip, and then it reaches 20 per cent. In spite of high wages, bonuses and other rewards, absenteeism appears to be greater than ever before in the history of industry.

"Charted absenteeism curves show remarkably good attendance on payday. If each working day were payday, there would be little or no absenteeism. In one firm where bonuses were given every three months (a sort of profit-sharing plan), on the day the bonuses were distributed practically all hands were present, only to have on the next day a high percentage of absentees. A unique procedure designed to prevent absenteeism in another war production plant provided that the workers draw numbers from a hat, with the lucky number bringing a prize of money. There was a daily prize for each floor. Absenteeism was of slight incidence as long as the lottery lasted. Finally, however, a government ruling forced its discontinuance.

"Donald M. Nelson, Chairman of the War Production Board, in a discussion in September 1942 of the use of labor-management committees in war production drives, said that absenteeism is also known as Monday morning sickness, and as payday sickness. Its true causes are, of course, much deeper. To a certain extent it springs from irresponsibility and thoughtlessness, but equally important are such social problems as difficult shopping conditions, inadequate nursery facilities and transportation handicaps.

"An incentive device which I found of particular interest in this connection was a lateness and absentee calendar, which by means of red crosses on the working day calendar indicated the days the employee was absent or late. On one side in large red letters was the word 'absent,' and this card was substituted for the regular time card.

"Women in some plants are more frequently absent than men. Physically they are not as strong as men and require more rest because they are more readily fatigued. Perhaps, too, they take their jobs more seriously. Factory life is a little hard on women, and they should not be expected to equal men physically. Then, many of them are married and have to supervise the home and the care of their children and husband besides. Old employees, some of whom have been in the employment of a firm for twenty to thirty years, are rarely if ever absent or late.

"Making sure that the employee is on the job every day does not guarantee that a full day's work is always performed. Employees, like profits, can be gross and net. One must measure the actual net hours of their combined work. One must make sure that sullen and shirking employees are not allowed to affect the work of the faithful.

"The production manager of a factory employing more than five thousand workers tersely expressed the difference between gross and net employees in his plant as follows: Of the men, 20 per cent were doing their best, giving a full day's work for a full day's pay and 80 per cent were indifferent; of the women, 80 per cent were doing their best and 20 per cent were indifferent. Other production managers when interviewed were in accord with this statement. Such a situation discredits both labor and management.

"Strikes in war production plants cannot be tolerated, yet their number has increased during

the last year. Most of today's strikes are occurring spontaneously, without any apparent leadership and frequently over trivial grievances. Most of them have been immediately denounced by responsible union leaders. It seems clear that the time to prevent such strikes is when employees are not producing as they should, when the rank and file are under tension, are tired, irritable and jittery and are clumsy and slipshod in their work.

"We cannot protect our fighting sailors and soldiers if we deny them that which they need to kill with instead of themselves being killed. If we are to give our fighting forces that which they need to kill our enemies, then we must work harder — make greater sacrifices.

"Admiral George Murray, formerly captain of the aircraft carrier *Enterprise,* has pointed out that the morale of men in battle stations at sea tends to be lowered by strikes on the home front. Foremost as the casual factors of discontent and griping among the fighting forces are the reports of strikes among workers at home. Working hours and pay mean but little to Navy men at sea. They work or stand by twenty-four hours a day, with no absenteeism or strikes.

"Admiral Thomas Gatch recently confirmed the opinion of Admiral Murray by observing, as a man 'who's been through it out there,' that fighting men are bitter at the continued interference with war production at home. Said he, 'I fear the resentment of fighting men against the men at home who are getting ten times the salary they are and not backing them up.' This is a genuine expression of the feeling in our armed services toward war strikers. No one can doubt it who has tested that feeling.

"In the rough course that war production has had to follow, many problems have had to be solved — problems of factory capacity, production of raw materials, shortages of materials, failures to pass inspection, provision of materials for civilian use, labor-management relations, conservation, improvement in scheduling and others. No problem has been more important than that of seeing that the job is done in a thorough and not slipshod way. One must not think exception to the rule is general, yet the exception when the job is not done in good faith, thoroughly and well, can cause incalculable harm and help delay the day when victory will be won. The failures and potential failures previously discussed intimate the extent to which the exception may materially affect our gigantic war machine.

"No production plant can afford to fight its workers, any more than discipline can take the place of good will. So far, there has never been a war production drive of strict disciplinarian nature. Workers have not been ordered to do this or that work. Labor disputes so far have ended without the use of force, and in many cases materials and man hours and tools and machinery have been saved. War production has depended heavily on both labor and management, and their leaders have accomplished much good work in their particular fields of endeavor.

"Among the weapons used today to make man hours and materials count are the following incentives: company dentist, uniforms, mascot, housing, schools, medical aid, financial aid, legal aid, first aid, suggestion box, suggestion system, packaging awards, rest periods, new employee bonus, holidays, washrooms, lockers, recreation, music, orchestra, choir, newspapers, magazines, war motion pictures (and I know they serve a real purpose), gameroom, canteen, radio, awards, posters, addresses of soldiers and sailors who have returned from the front and labor-management committees. I read this list to one employee who said, 'There's one you did not include, and that is coffee.'

"A fire in a building cannot be fought successfully from the outside. It must be fought from within. The fire in this instance is an earth-begotten germ in the blood of those who do not give their best. There are no second prizes. Failure to produce is selfishness in essence and is expressed by:

1. Failure to realize how important production is in the winning of this war.
2. Too vulgar an optimism regarding the outcome of the war, which is not yet won.
3. Unrest and lack of ambition. Before work can be got out of men, they must have work in them.
4. Lack of responsibility.
5. Lack of a thoroughgoing loyalty to a social cause.
6. No vision regarding the work employees in a war production plant are doing. According to the Bible: 'Where there is no

vision, the people perish.'

7. Lack of a clear view of the great aims for which we are fighting.

"In many plants, management can often work with labor union shop committees to point out the problem of the noncooperative workers and get the help of the trade union in educating them.

"No one wishes to give up the fight because of the desperate man power shortage. No commodore ever engaged an enemy ship without wishing for one more ship. There was never in any engagement so large a number of ships and planes that more could not be used. We must do our best with what we have and make for good workmanship, which will save hours of time and tons of material, remembering how important a factor is concentration, of which virtue President Eliot of Harvard said that he 'would rather hear a serious talk about butterflies than a flippant talk about airplanes.'

"Every man and women has a right to know how his or her work relates to the war. We all work better when we know what part we share in the common task of winning this war. The same peacetime work is often the wartime task, and the part of the worker should be definitely established. The best incentive that a worker in a war production plant can have is the consciousness within that he himself is doing something vital in the winning of this war — that he is helping men who are fighting on the battlefield, on the seas and in the air.

"In one of the plants supplying surgical material, there was an urgent need for sutures for the Navy. The Navy had impressed on the management the urgent need for these sutures. The management stressed the need to the foreman, the foreman to the workers. A deadline was set for their completion. Workers came from higher-paying departments of that plant to help fill the order. They all were made to feel that the winning of the war was dependent on them and that each individual was a part of it. With this idea established, all production records for the plant were broken and the sutures were aboard ship on time. No other war cry entered into this effort but the backing up of the wounded. There were real incentives: first, the need of the Navy and then the need to save the lives of men.

"People work better when they understand how extremely important their jobs are. This understanding has been instilled by such means as sending war heroes and exhibits of films into the factories and taking the leaders of management and labor into training camps to observe simulated battle maneuvers, even to jouncing along in tanks, knocking down trees and rolling over hills and through gullies.

"Tours of ships and camps on both coasts have been arranged by the Navy for war plant executives and labor leaders. Various types of landing craft at sea have been observed by the workers as sailors practiced landing operations and gunnery. Representatives of labor and management have been observed searching on board ship for the particular parts and materials which they made. Sailors told the foreman how their equipment stood up in the test runs. These men carried to the workers in the shops first hand information, which gave them the moral energy, concentration and zeal needed in their future efforts. These are mighty factors when put into practice every day.

"There are many systems of incentives, but the greatest of all incentives is a personal appeal. The soil in which the seed grows must be studied. What is necessary must be supplied. What is lost must be replaced. The worker must feel that the great majority of us must work now as never before, that he himself is doing a job which will help win the war, that the fact of the matter is that this war is being fought not only afar off but right here at home as well, where he, the worker, is. This war cannot be won without undue delay unless workers on the home front realize that the lives of our sons are dependent on them.

"In conclusion, a special message from London from Admiral Stark, Chief of the High Command of the United States Naval Forces in Europe, is deserving of earnest thought and consideration by all of us. Admiral Stark's message was released at the end of the fifth in a series of inspection trips by workers and management respresentatives to amphibious training bases on the East Coast and reads in part as follows:

"The big job of the Navy . . . calls for the utmost exertion. Every man, regardless of just what niche he fills in the production and delivery of landing craft for the fighting fronts,

must realize he is playing a vital part in world-wide amphibious war. Every morning when he picks up his tools he is doing a fighting man's job. At the end of every shift, when he lays down his tools he should have the feeling 'I certainly gave all I had today for the fellows on the fighting front.' The men who are running with the ball, you men on the home front, producing landing craft, are vital links in the team that will carry the war to the enemy's door and burst it open. Give us the craft and we will do the rest."

EXPOSURE OF TRUCK DRIVERS TO CARBON MONOXIDE*

Prompted by recent occurrence of accidents and near accidents caused by drivers falling asleep while driving, a study was made of carbon monoxide exposure of drivers of a trucking system in California, by the State Bureau of Industrial Health and the Los Angeles City Division of Industrial Hygiene. A study of the findings brought the following conclusions: (1) High concentrations of carbon monoxide may be expected to be associated with downhill runs or shifting of gears rather than long uphill pulls; (2) Direction and velocity of the prevailing wind are probably the controlling factors in the occurrence of high concentrations of carbon monoxide in the cab, in cases where the truck manifolds and exhaust pipes and mufflers are in good repair; and (3) when a large number of trucks are traveling over a highway in close array, significant concentrations of carbon monoxide may develop in the general atmosphere on the highway.

*Industrial Hygiene News Letter, July 1944.

SAY PHYSICAL RECONDITIONING HELPS CHEST SURGERY PATIENTS

Starting The Program Soon After Operation Returns Soldiers To Full Duty At Early Date, Three Army Doctors Report

A well planned physical reconditioning program, started as soon as possible after the operation, contributes greatly to the success in the management of chest surgery patients, Colonel John B. Grow, Major Omer M. Raines and Major Ora L. Huddleston, Medical Corps, Army of the United States, declare in *The Journal of the American Medical Association* for December 23. Their report is based on results obtained in an Army hospital which showed that a high percentage of patients participating in the program return to military duty at an early date in excellent physical condition.

"One of the major developments in the field of surgery during the present war," the three men say, "has been the general recognition of the value of a reconditioning program. The term 'reconditioning program' is a broad one and covers the care of the patient from the time of his operation until he is physically fit to return to his organization. The goal of this program may be simply stated as the restoration of the patient to a normal physical and mental state of health. . . . To be successful this program must be initiated as early in the convalescent period as possible and requires the close cooperation between the surgeon, the physical therapist, the occupational therapist and the physician in charge of reconditioning. . . ."

Twenty-two soldiers with chronic nontuberculous empyema completed treatment during the period of the study which lasted twenty-one months. They were transferred to a reconditioning service as soon as they had been without fever for a sufficient period to take part in the program, usually from ten days to two weeks.

"As the patient's condition permits," the author says, "breathing exercises, calisthenics and outdoor drills and marches are engaged in. Vigorous physical activity has been found to be of definite benefit in hastening the obliteration of empyema and lung abscess cavities. The usual experience is that by the time the empyema or lung abscess cavity has disappeared the patient has been restored to his normal weight, stamina and strength. . . ."

Of the 22 patients, 18 were returned to duty and 4 were discharged from the service.

Of 31 patients treated by surgical removal of a portion of the lung, 25 were returned to duty with an average of ten weeks of hospitalization following surgery. Their reconditioning program was started with breathing and shoulder exercises in the wards on the seventh postoperative day.

"Unfortunately," the doctors say, "it is not possible to compare the results obtained before and after the initiation of the reconditioning program at this hospital, owing to the fact that the cases are not comparable and surgical techniques have been changed during this period. However, the rapid response of this group of patients to the program, the excellent physical conditioning obtained and the high percentage of cases returned to military duty have been striking. . . ."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

CASS COUNTY

Capt. Maurice Stamler, Beardstown, was awarded the bronze star for unusual bravery in action October 26, 1943, when he moved through an enemy artillery concentration which was falling at the rate of eight rounds per minute to the aid of three seriously injured infantrymen. Arriving sometime ahead of his ambulance, he worked for 45 minutes caring for these men while shells were bursting within fifty yards of him. When the ambulance arrived, he directed the evacuation of the injured soldiers. It was stated "that his utter disregard for personal safety in this gallant action is deserving of the highest praise."

CHAMPAIGN COUNTY

Harold R. Bodine, Urbana, has been commissioned a first lieutenant in the Army Medical Corps and is stationed at the Veterans' Administration Facility, Dayton, Ohio.

J. C. Thomas Rogers has returned to Champaign-Urbana following his release from active duty with the Navy.

COOK COUNTY

Edmund A. Flexman, 4704 N. Artesian Avenue, Chicago is back in the United States after 22 months in the island jungles.

In a dispatch from Paris appearing in the Chicago Tribune of December 31, 1944 mention was made of the multi-storied hospital staffed largely by Chicagoans and midwesterners. Chicago doctors mentioned in the story are Capt. Robert J. Freedman, Lt. Joseph A. Bertucci and Capt. Arno Leshin.

Lt. Col. John V. Belmonte, Chicago, has been awarded the silver star for performing a successful field operation at night with only a flashlight for illumination. Commander of the American Division's medical battalion, he voluntarily accompanied infantry assault troops in an advance against enemy positions to perform the operation under enemy fire.

Charles William McClanahan of River Forest and William Allen Smiley of Chicago have been promoted from Majors to Lieutenant Colonels.

Major Ben H. Neiman of Oak Park has been promoted to the rank of Lt. Colonel for his work as chief of laboratory service at the 108th General Hospital, France.

The following promotions have been announced: From Lt. Colonel to Colonel, Marion Herbert Barker, Michael L. Mason, Paul C. Salisbury of Chicago and Harold F. Machlan of Hines; From Major to Lt. Col. Robert C. Hunter, Jr., Harvey Stuart Allen of Chicago and Richard H. Young of Evanston; From Captain to Major, George E. Howard of Chicago.

LAWRENCE COUNTY

Frank P. Campbell of Lawrenceville has been promoted from Major to Lt. Colonel.

VERMILION COUNTY

Lt. Col. Holland Williamson of Danville has been promoted to Colonel.

WOODFORD COUNTY

Capt. Nelle Crout, 38, head nurse of the army's 13th general hospital in New Guinea, died there November 30th, her parents, Mr. and Mrs. J. W. Crout of El Paso, Illinois have been notified. The overseas hospital with which Capt. Crout was associated is staffed by Chicago doctors and nurses and enlisted men from this area. Capt. Crout helped to organize a unit at Presbyterian Hospital, Chicago.

GENERAL

CHAMPAIGN COUNTY

B. Smith Hopkins, Jr. of Urbana has been elected President of the Champaign County Med-

ical Society. Other officers elected at the December 14th meeting were Doctor G. F. Fishel, vice-president; Doctor J. D. McKinney, secretary-treasurer; Doctor H. L. Ford, delegate; Doctor G. E. Ingram, alternate delegate; Doctor J. C. Dallenbach, advisor for medical defense; Doctor E. D. Wise, Doctor J. S. Mason and Doctor S. S. Garrett, board of censors; and Doctor W. L. Viers and Doctor Darwin Kirby, executive committee.

Paul Holinger of Chicago addressed the Champaign County Medical Society at the December 14th meeting. He spoke on causes of hoarseness and showed two movie films of throats of patients suffering from different types of hoarseness. Doctor L. E. Messman, who has returned from army service and is now obstetrician at the Carle Clinic, Champaign, was elected to membership.

CLARK COUNTY

L. J. Weir of Marshall was awarded the Fifty Year Button of the Illinois State Medical Society at a dinner held in Danville early in December.

COOK COUNTY

The statue of Louis Pasteur will be moved from its location opposite the west wall of the Chicago Museum of Natural History in Grant Park, Chicago to a new site in Honore Street, just north of Convalescent Park, fronting Cook County Hospital. The statue which weighs 54 tons and rests on a 545 ton marble and concrete base is being presented to the commission by the Chicago park district, to which it was given in 1927 by a citizens committee headed by the late Dr. Frank Billings.

Dr. Rafael Mendez, formerly instructor in pharmacotherapy, Harvard Medical School, Boston, has been promoted to associate professor and appointed acting chairman of the department of pharmacology at Loyola University School of Medicine, effective January 1. He fills the vacancy that occurred when Dr. Amedeo S. Marrazzi went to Wayne University College of Medicine, Detroit.

Ground was broken for a new hospital building to be erected as an addition to the Presbyterian Home, Evanston. The new wing will cost around $400,000, and the WPB has granted all necessary priorities for the work.

Don C. Sutton, member of the Executive Committee of both the Chicago Heart and the Illinois Heart Association was recently invited to speak at Madison, Wisconsin, to the Wisconsin Heart Association which is in the process of becoming incorporated. Dr. Sutton, Chicago, talked on the developments and the important phases of the activities of the Heart Associations.

Samuel M. Feinberg, Associate Professor of Medicine, Northwestern University Medical School, recently addressed the Academy of Medicine of Toledo, Ohio, on "Molds in Allergy — a Decade of Progress in the Etiology of Respiratory Allergy."

FULTON COUNTY

Dr. W. H. Betts of Havana, retiring vice president of the Fulton County Medical society, was elected president December 18 at the dinner meeting held at the Elks club dining room. Other officers elected were: Vice president, Dr. E. E. Davis of Avon; secretary-treasurer, Dr. P. D. Reinertsen of Canton, re-elected.

Dr. H. T. Baxter of Astoria was re-elected necrologist. Dr. E. P. Coleman, Dr. Mark S. Nelson of Canton and Dr. J. W. Welch of Cuba were named members of the medical advisory committee for the coming year. Dr. Davis will also serve as chairman of the maternal welfare committee and as delegate to the meeting of the Illinois State Medical society. Dr. Reinertsen was elected as alternate delegate to the state society meeting.

Following the business meeting and election of officers, Dr. Oliver L. Bailey of Peoria was introduced and gave an address on "The Relation of Vitamins to Skin Diseases."

On Wednesday evening, November 22, 1944, an open meeting was held in the Christian Church in Vermont, Illinois, honoring Dr. C. H. Hamilton of that town. Dr. Hamilton has just completed fifty years practice of medicine, all of which were spent in Vermont.

The meeting was arranged by the Fulton County Medical Society in conjunction with the Vermont Kiwanis Club, and was held in Vermont so that the people of his immediate vicinity could attend.

A welcome address was presented by Mr. Frederick O. Mercer, who spoke in appreciation of the services rendered by Dr. Hamilton during the past fifty years. Mr. Rodney Boynton, on behalf of the Kiwanis Club, then presented the doctor with an award for community service, and briefly commented on the work Dr. Hamilton had done in his community.

Dr. H. B. Shepard, President of the Fulton County Medical Society made a short address and introduced Dr. E. P. Coleman, President of the Illinois State Medical Society. Dr. Coleman addressed the group, presented Dr. Hamilton with the Fifty-Year Button and inducted him into the Fifty-Year Club which is sponsored by the State Society.

GREENE COUNTY

N. J. Bucklin of Roodhouse entertained the members of the Greene County Medical Society at a dinner in his home on December 8. H. P. McCuistion of Alton was the speaker and discussed "Low Back Pain." Officers for the coming year were elected: President, A. K. Baldwin of Carrollton; Vice-President, F. N. McLaren, White Hall; W. H. Garrison of White Hall was elected Secretary and N. J. Bucklin of Roodhouse, Censor.

JEFFERSON-HAMILTON COUNTY

The Jefferson-Hamilton County Medical Society met at the Nurses Home of the Good Samaritan Hospital December 21. Twenty physicians and twelve nurses were present.

The guest speakers were Captain Cyril J. Anslinger of the Medical Corps, U. S. Army and Commander Marshall W. Hall, Medical Corps, U. S. Navy.

Captain Anslinger gave an interesting talk on the modern treatment of tropical diseases.

Commander Hall, who has spent the past twenty-two months in Northern Africa with the U. S. Navy, discussed the campaign in Northern Africa, the diseases encountered and the people with whom he came in contact.

The Society elected officers for the incoming year, and decided that inasmuch as we were in the midst of a war we should not swap horses while crossing the stream, and the officers who served last year were reelected. They are as follows:

President, A. W. Modert; Vice President, C. J. Poole; Secretary-Treasurer, Andy Hall; Delegate, T. B. Williamson; Alternate, J. E. Dixon. Members of the Ethical Relations Committee: J. A. Johnson, W. G. Parker, Todd P. Ward.

The out of town physicians present were: Dr. Rutherford of Christopher, Dr. Goodrich of Bluford, Drs. Vickers and Hall of McLeansboro, Drs. Huber and Blakely of Fairfield, Drs. Lane of West Frankfort, Alvis of Benton and Wells of Waltonville.

Music for the occasion was furnished by the High School Quartet and chorus by the nurses, led by Imajean Smith.

A buffet luncheon was served by the nurses of the hospital.

LAKE COUNTY

The Lake County Medical Society held its annual December meeting at the Lake County Tuberculosis Sanatorium, Waukegan on December 12th. A scientific program was followed by regular business meeting and election of officers for 1945.

The Scientific Program was conducted by George Perret, M.D. of Chicago who presented in the form of a Clinico-pathologic Conference, three cases, and a general discussion of "Tuberculoma of the Brain."

Officers of the Society for 1945 were elected as follows:

President, H. Floyd Cannon, M.D., Waukegan; Vice Pres., M. D. McNeal, M.D., Highland Park; Secy.-Treas., A. L. Myers, M.D., Waukegan. Hugo Branyon, M.D. was elected to the Board of Censors for a three year term.

LA SALLE COUNTY

The program committee of the LaSalle County Medical Society have arranged for the following programs to be given at the Manufacturers Club, Kaskaskia Hotel, LaSalle on the second Thursday evening of each month beginning with a dinner at 6:30 P. M.

January 11, 1945, "Practical Gynecological Office Practice" — Dr. Walter Reich, Asso. Prof. Gyn. Cook Co. Post Grad. School and Director Gyn. Clinic Cook Co. Hospital and Dr. M. J. Nechtow, Asso. Attending Gynecologist, Cook Co. Hospital.

February 8, 1945, "Syphilis Of The Central Nervous System" — Dr. Ben Lichtenstein, Attending Neurologist, Cook Co. Hospital and Memb. Neurological Staff, University of Illinois Medical School.

March 8, 1945, "Intestinal Obstruction" — Dr. John W. Howser, Asso. Prof. Surgery Cook Co. Post Grad. School and Asso. Attending Surgeon, Cook Co. Hospital.

April 12, 1945 — Industrial program with Illinois Valley Manufacturers Association. Program supplied later.

May 10, 1945, "Newer Developments In The Treatment Of Vascular Disease" — Dr. John T. Reynolds, Asso. Prof. Surg., University of Illinois Med. Attending Surgeon — University of Illinois Research Hospital and St. Lukes Hospital.

MADISON COUNTY

Armand C. Forster, Instructor in Surgery at St. Louis University, St. Louis, Missouri addressed the Madison County Medical Society on January 5th at Collinsville. He spoke on "Surgery of the Lower End of the Gastro-Intestinal Tract."

The December meeting of the Society was held in Highland with the following officers elected for the coming year:

Dr. J. W. Kempff, Highland, President; Dr. H. M. Cravens, Collinsville, Vice President; Dr. E. F. Moore, Collinsville, Secretary; Dr. D. D. Monroe, Alton, Treasurer; Dr. E. C. Ferguson, Edwardsville, Medico-legal Member; Dr. R. H. Greaves, Collinsville, Censor for 1945-46-47.

MARION COUNTY

A. P. Heller of Centralia was appointed surgeon and examiner for the Illinois Central Railroad on November 1st. In addition to his new duties, Dr. Heller will maintain his position with the C.B.&Q. Railroad, a connection of 26 years as well as his regular practice.

MASSAC COUNTY

W. S. Dixon of Metropolis was recently presented with the certificate and Fifty Year Pin of the Illinois State Medical Society. The presentation speech was made by Dr. J. A. Fisher who had practiced next longest in the county.

MC LEAN COUNTY

O. M. Thompson of LeRoy has been elected President of the McLean County Medical Society for the coming year. He is also president of the Mennonite Hospital Staff of Bloomington for the year 1945.

PEORIA COUNTY

Members of the Peoria Medical society elected officers for 1944-45 at their annual dinner meeting in the University club Tuesday evening, December 19.

Chosen as president was Dr. Fred Decker. Dr. C. W. Magaret, who has held the post of secretary-treasurer of the society for 19 consecutive years, was named as president-elect. Retiring president was Dr. William Blender who addressed fellow members on his experience during 40 years of practice in the city.

Other officers elected were, Dr. W. E. Owen, secretary-treasurer; Dr. Elmer Seaburg, councillor; Dr. E. Guinta, councillor; Dr. A. Phillips and Dr. A. Kannapel, delegates to the state convention; Dr. W. H. Holbrock and Dr. Harold Diller, alternates for the convention, and Dr. C. E. Nystrom, board of censors.

The annual report showed that 62 members of the Peoria society are now in active service in the armed forces of the nation.

ROCK ISLAND COUNTY

At a business meeting of the Rock Island County Medical Society held December 12 at the Rock Island County Tuberculosis Sanitarium, the annual election of officers was held, and the following members were elected:

President, Dr. L. A. Dondanville, Moline; 1st Vice President, Commander Roland O. Sala, USNR, Rock Island; 2nd Vice President, Dr. Anton Knutson, Reynolds; Secretary, Dr. N. C. Barwasser, Moline; Treasurer, Dr. Phebe Pearsall-Block, Moline.

The prevalence of the Microsporon Audouini type of scalp ringworm in the county was discussed and plans were made for the entire detection and eradication of the infection.

STATE DEPARTMENT OF PUBLIC HEALTH

Dr. Clifton Hall has been appointed to the position of Chief of the Division of Tuberculosis Control, State Department of Public Health, effective January 15, 1945. Dr. Hall graduated from the Medical College of the University of Louisville in 1930 and from the Harvard School of Public Health, with a Master of Public Health degree, in 1938. His experience includes two years on the medical staff of the Kansas State Tuberculosis Sanatorium, five years as Director of the Division of Tuberculosis Control of the Kansas State Department of Public Health and five years as health officer of the local bi-county health department that serves Mecosta and Osceola Counties with head quarters at Big Rapids, Michigan.

Dr. Bruce M. Brown has been appointed Chief of the Division of Industrial Hygiene, and assumed his new duties December 1, 1944. A graduate of the Medical School of the University of Illinois, Dr. Brown was in private practice in Streator until 1942. The following year he was commissioned Senior Assistant Surgeon (R) in the United States Public Health Service. Prior to his return to Illinois, Dr. Brown was Acting Medical Director of the Industrial Hygiene Section of the Iowa Department of Public Health.

Dr. Herman M. Soloway, who served as Acting Chief of the Division of Industrial Hygiene previous to Dr. Brown's appointment, is now conducting medical inspections of Illinois industries, being concerned primarily with the health and welfare facilities provided for the protection of workers.

DEATHS

Eugene Thomas Alexander, Peoria; Chicago Medical College, 1930. Served in World War I. Died following an illness of five months on Nov. 11th, aged 49.

George C. Bates, Rushville; Harvard Medical College, 1921. After receiving his doctor's degree in medicine, he entered Barnes Hospital in St. Louis, Mo., as an intern and a student in surgery. He remained two years as resident surgeon and while holding this position, Barnes Hospital presented him with an honorary key in recognition of meritorious service. He started practicing medicine in Rushville in 1924. Died following a paralytic stroke, December 2nd at the age of 52.

Maurice L. Blatt, Chicago; Rush Medical College, 1903. Was professor, department of pediatrics at the University of Illinois College of Medicine, head of children's diseases department in County Hospital and chief pediatrician and staff president of St. Vincent's

Hospital. Served as sergeant in the Spanish American War and as medical inspector of the 33rd division in World War I. Later he was a lieutenant colonel and executive officer in the Illinois National Guard. Died, aged 65, December 10th.

Charles M. Bradley, Beckemeyer; Albany Medical School, 1887. Had practiced medicine for 50 years, 42 years in Harvey, later in Sumner, thence to Carlyle and Beckemeyer. Died November 25th, aged 80 years.

John R. Brian, St. Francisville; Barnes Medical College, St. Louis, Mo., 1899. Died November 18th following a long illness, at the age of 74.

Edward W. Cummins, Harrisburg; St. Louis University School of Medicine, 1906. Served twice as president of Saline County Medical Society; president of board of Saline County Tuberculosis Society; director of First National Bank and physician for Wasson Coal Company; formerly commissioner and city and county health officer; served during World War I. Died October 5, aged 66, of lymphosarcoma.

Xenophen B. Dougherty, Neoga; Bennett College of Eclectic Medicine and Surgery, 1915. Had practiced medicine in Sigel, Neoga and Kinmundy. Died of heart attack October 24th, aged 55 years.

Reuben C. Hanchett, retired, Chicago; Syracuse University, 1884. Died December 16, at the age of 82.

Warren T. Heaps, Kewanee; St. Louis University School of Medicine, 1906. Had practiced medicine and surgery in Kewanee for the past 37 years; member of the Elks' lodge and charter member of the Rotary club of Kewanee. Died of pneumonia, aged 65, November 4th.

William H. Leffler, Chicago; Chicago College of Medicine and Surgery, 1908. Had practiced medicine in Chicago for 37 years. Was staff member of Lutheran Deaconess Hospital. Died of a heart attack December 16, at the age of 69.

Louis W. Meckstroth, Chicago; University of Minnesota School of Medicine, 1893. Retired from active practice some years ago. Died December 12th, aged 75, in the home of his daughter.

Elmer L. Mullin, Manlius; Illinois Medical College, 1905. Had practiced medicine in Manlius nearly 40 years. Died in the Presbyterian Hospital, Chicago November 12th at the age of 69.

William O. Rickfort, Chicago; Rush Medical College, 1902. Had practiced medicine in Chicago for 42 years; was one of five men who founded the Evangelical hospital. Was assistant in Gynecology at the Post-Graduate hospital from 1905 to 1912. Died December 13th, aged 69.

Theodore H. Schreuder, retired, Chicago; Rush Medical College, 1891. Died in the Norwood Park Norwegian Old People's Home, October 7, aged 84, of myocarditis and arteriosclerosis.

Arthur Louis Sherrill, Evanston; Cornell University Medical College, 1899. Assistant medical director of Equitable Life Assurance Society of United States. Died December 1st, at the age of 74.

W. Morley Sherin, Chicago; University of Illinois College of Physicians and Surgeons, 1898. Had practiced medicine in Chicago 45 years. Former president of the staff of Jackson Park Hospital, 1937-39; attending surgeon and vice-chairman of the surgical department, Jackson Park Hospital. Died following a heart attack in his home, December 17th, aged 69.

Samuel A. Thompson, Mt. Vernon; Barnes Medical College, St. Louis, Mo., 1897. Started the practice of medicine in Ina but moved to Mt. Vernon 33 years ago. Died December 4th, aged 75 at Barnes' Hospital in St. Louis.

Frank Kemper Westfall, Prairie City; Hahnemann Medical College and Hospital, Chicago, 1903. At one time on the staff of the Phelps Hospital, Macomb. Died September 16, aged 64.

EXCRETION OF VIRUS OF POLIOMYELITIS

In a study of the duration of excreation of the virus of infantile paralysis in the stools of 61 patients, it was found that the excretion extends into the seventh and eighth weeks after the onset of the disease in an appreciable percentage of cases, which is contrary to the prevalent concept that stools commonly contain the agent for three to four weeks following the onset but rarely thereafter, three Yale University School of Medicine investigators report in *The Journal of the American Medical Association* for December 23. They say that the results provide no evidence for the existence of persistent carriers of poliomyelitis virus but it is possible that failure to demonstrate such carriers was due to the relatively small number of subjects studied.

The study was conducted by Dorothy M. Horstmann, M.D., Robert Ward, M.D., and Joseph L. Melnick, Ph.D., New Haven, Conn.

They found that 61 per cent of the patients excreted virus during the first two weeks after onset of the disease, 50 per cent during the third and fourth weeks, 27 per cent at the fifth and sixth weeks, 12.5 per cent at the seventh and eighth weeks. Between the ninth and twenty-fourth weeks virus was detected in only one of 52 specimens tested, this positive result coming from a boy 8 years old in the twelfth week of the disease.

Over the centuries tuberculosis has killed more people than has war. In 1943, tuberculosis killed approximately 56,000 people in the United States. That is the equivalent of four army divisions — four divisions who will not march in this war either on the home front or abroad. This is the toll exacted by our complacency towards an enemy we know how to conquer. "Tuberculosis in a World at War" (NTA).

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.
Peoria, Ill.

DREAMS

Some folks are always wishing that their
dreams came true,
Which proves their dreams are not at
all like mine,
For that is just the thing I hope my
dreams won't do,
If mine came true I'd surely gripe
and whine.

For I fall out of aeroplanes
Or get dumped in the sea,
And suffer agonizing pains
When trains run over me.

I view myself, am much perplexed
To find my head is gone;
With both feet made of ice I'm vexed,
I'm minus brain and brawn.

I fight with mighty amazons,
And then with pigmies small,
With movements like automatons,
They neither walk nor crawl.

I often soar off into space
Then take a sudden fall;
Sometimes I find I have no face,
Sometimes I'm twelve feet tall.

Grotesque and gruesome human shapes
On every side abound,
And writhing reptiles, wolves and apes
Encircle me around.

Ferocious, fiendish, fearful forms
March slowly o'er my chest.
Ships wrecked at sea, in awful storms,
Which whales and sharks infest.

I leap from dizzy dazzling height,
In falling gasp for breath,
Into a chasm black as night
And wake, escaping death.

So brother you can have your wish that
dreams come true,
I'll take my dreams inverted if I may;
For only by reversing dreams that I've
been through,
May I expect to live another day.

THE FLY IN THE OINTMENT

How we love all little girls
whose hair is red;
Be it straight or lies in curls
upon her head;
Whether golden, carrot, Titian,
There is something quite patrician
In the way each red hair swirls
like golden thread.
She is sharp and bright, serene,
when in repose;
She is swift, dynamic, keen,
where e're she goes;
But the fly within the ointment
That creates such disappointment
Are the freckles always seen
upon her nose.

WINTER

I don't mind when it freezes,
In fact the winter pleases
With crisp and chilling breezes
Awhistling round my kneezes,
In the air.

But, O, how it displeases,
With winter's foul diseases
Like coughs and colds and sneezes,
And worst of all the wheezes,
Everywhere.

FRENCH DOLLS

This furniture so ultra-modernistic,
And pictures that are all too realistic,
And multi-colored pillows
Arranged in heaps and billows
Grate harshly on my keen aesthetic sense.

These smoking sets I see give me the jitters,
The papers on walls bring jeers and titters,
The rugs set flesh acreeping,
And chairs start one aweeping,
The drapes belong upon a backyard fence.

Though I am game and I can take it grinning,
There's one thing that upsets my underpinning,
And wrath consumes my being
For red is all I'm seeing
When French dolls sprawl around in impudence.

I hate 'em and I loathe 'em,
My great desire's to clothe 'em
And cover up each gangling leg and arm;
Or give them to the furnace man
Or dump them in the garbage can,
Then do their erstwhile owners bodily harm.

Saith Sophistes the Seer, "Yearn not, my son, for tasks equal to thy power but rather for power equal to thy tasks."

Seldom sick *but* never well



• Today, with our generously rationed American diet, there are few who develop frank vitamin deficiency syndromes.

But there is a great host of people who do not enjoy buoyant good health because they fail to obtain enough of these all-important accessory food substances.

They are seldom sick but never well.

For this great group, additional vitamins are necessary.

And what more convenient way is there to supply this need than to prescribe 'Avicap.'

One 'Avicap' a day supplies the minimum daily requirements of the six vitamins known to be essential in human nutrition.

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'Avicap' Multi-vitamin Capsule

Each 'AVICAP' contains: Vitamin A . . . 5,000 U.S.P. units; Vitamin D...500 U.S.P. units; Vitamin B_1...1 mgm.; Vitamin B_2...2 mgm.; Vitamin C . . . 30 mgm.; Nicotinamide . . . 10 mgm.

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Today—to meet a recognized need—Nestlé's has produced an improved evaporated milk with *greater Vitamin-D content.*

*25 USP units of Vitamin D_3 in the form of Irradiated 7-Dehydrocholesterol, have been added to each fluid ounce—so that this *new* Nestlé's Milk supplies 400 USP Units of Vitamin D_3 per reconstituted quart.

This improved product is now on grocers' shelves under the label shown above. The name Nestlé's on this label is your guarantee that there's no finer evaporated milk. *Fortification with Vitamin D_3 does not alter this milk's flavor or destroy any of its natural vitamins.*

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Diarrhea



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Natural urge to defecate is re-established without carthar-sis, artificial bulkage or large doses of mineral oil.

Economical teaspoon dosage avoids oil leakage and does not affect vitamin absorption.

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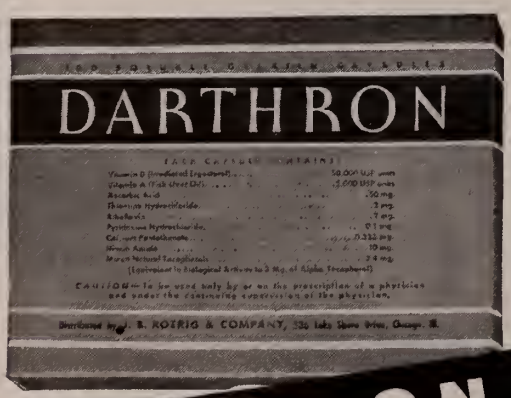
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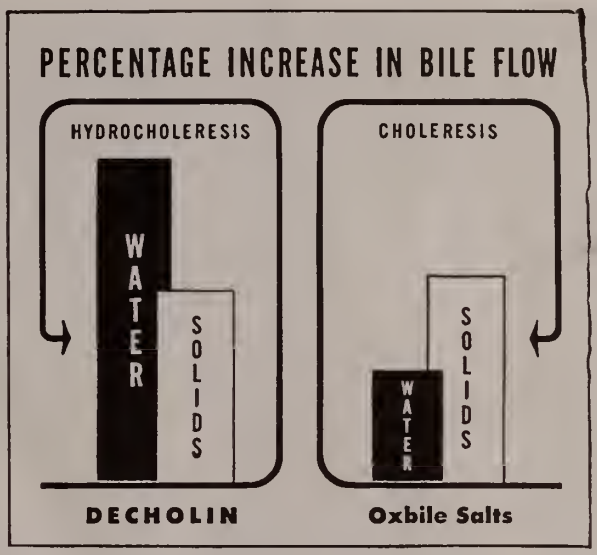
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Arch. Otolaryng., 39:109-123, 1944.

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Book Reviews

CATARACT AND ANOMALIES OF THE LENS. Growth, Structure, Composition, Metabolism, Disorders and Treatment of the Crystalline Lens. By John G. Bellows, M.D., Ph.D., Assistant Professor of Ophthalmology, Northwestern University Medical School, Chicago. With 208 Text Illustrations and 4 Color Plates. Pp. 624. Price $12. St. Louis, The C. V. Mosby Company, 1944.

This book is probably the most comprehensive treatise on the crystalline lens thus far written. The descriptive text is perfectly organized. The references are well defined and represent many years, perhaps more than a decade, of intensive investigation by the author.

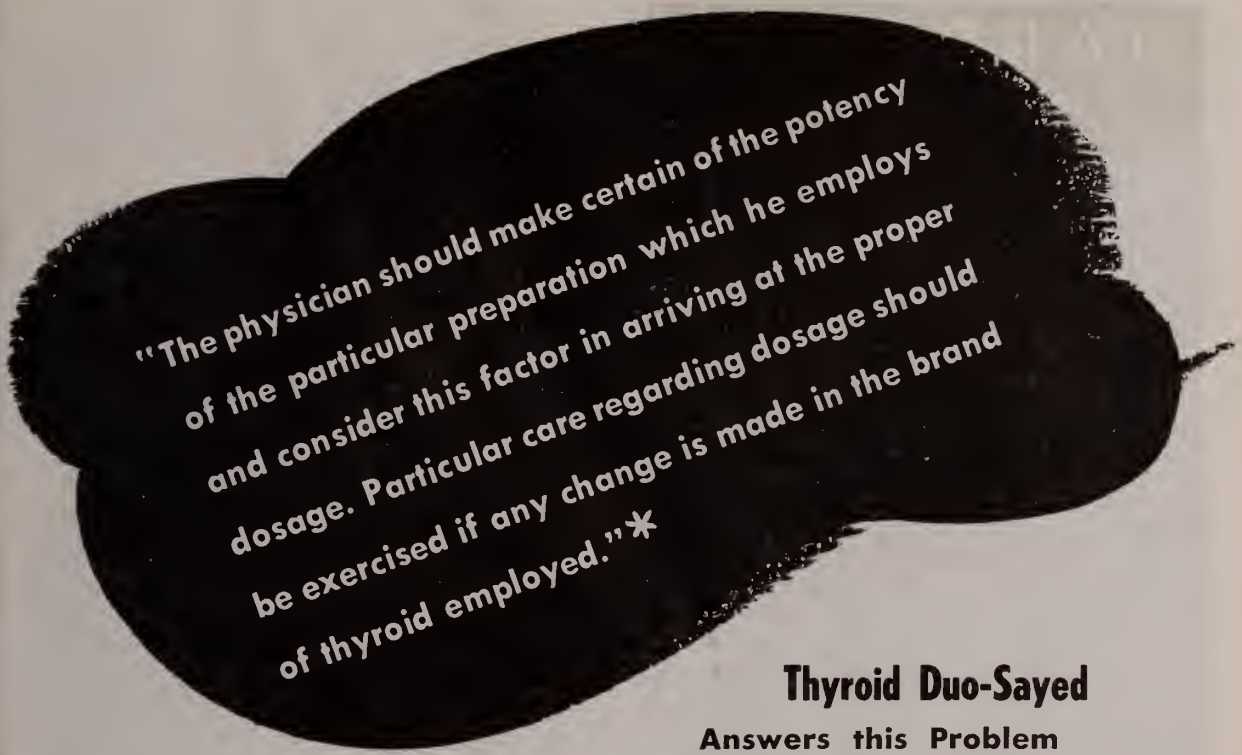
In proper sequence, the author gives a history of the crystalline lens, its development, structure, composition and metabolism. He then goes on to give the various developmental defects of the lens. There is a chapter describing cataract formation due to various physical modalities, and to the toxic type of cataract due to drugs. The complicated types of cataract due to trauma, etc. have not been neglected and are well described. There is also a chapter on cataracts due to endocrine disturbances, and finally a chapter on the more frequent type of cataract—the senile cataract.

While it is true, as stated in the Foreword by the late Dr. S. R. Gifford, "that certain parts of this compilation may prove rough sledding for the average clinician," he also states "that it will repay any ophthalmologist to read this book carefully."

It may be that the average ophthalmologist will look upon the title of this book as indicative of a text about the ordinary type of cataract seen in private practice. There is much more to the book than this, and aside from the intensive investigation of the literature, the author has incorporated the results of much of his research work.

The author is to be commended on his description of cataract surgery. It is concise and quite sufficiently descriptive without the details of all the various operations devised by various surgeons. The complications which sometimes develop following cataract surgery are well described.

(*Continued on page* 54)



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*The Pharmacological Basis of Therapeutics, Goodman, L. and Gilman, A., New York, The Macmillan Co. (1941)

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BOOK REVIEWS (Continued)

Even though the reader might be bogged down by parts of the book, he will find the sequence so beautifully arranged that the more practical parts of the book, as applied to clinical ophthalmology, are quite easily picked up and can be read without perusal of the first parts of the book.

Surely this book is a "must" for all ophthalmologists. In the opinion of the reviewer, this work will be a standard of its kind always.

W.C.S.

PLASTER OF PARIS TECHNIC: By Edwin O. Geckeler, M.D., Associate Professor of Orthopaedic Surgery and Chief of the Fracture Service, Hahnemann Medical College and Hospital, Philadelphia. Fellow of the American College of Surgeons, Fellow of the American Academy of Orthopaedic Surgeons, Fellow of the American Association for the Surgery of Trauma, Diplomate of the American Board of Orthopaedic Surgery. The Williams & Wilkins Company, Baltimore. 1944. Price $3.00.

Anyone who will take the time to read this interesting book will agree with the statement made in the Foreword by Dr. Charles L. Scudder that "it is an art to use plaster of paris skillfully and this book explains the art". Many operators use individual technics for the application of certain types of plaster of paris casts, but in the book the art of proper application of plaster in the treatment of fractures and other injuries over the entire body is well brought out.

The more than 200 illustrations add materially to the value of the book. Although it may be purchased as a reference work, anyone who must use plaster of paris frequently in the care of injuries will be intensely interested in reading it in its entirety. Only 200 pages, filled with valuable information, will be found between its covers.

The use of plaster of paris in the treatment of war injuries as described by the author, brings it entirely up to date. The book is surely a "must" for those using plaster, and it should be of immense interest and value to both the student and those who must care for the injured in private practice.

TABER'S DICTIONARY OF GYNECOLOGY AND OBSTETRICS: By Clarence Wilbur Taber, Medical editor and author of Taber's Cyclopedic Medical Dictionary, Taber's Condensed Medical Dictionary, and Dictionary of Food and Nutrition, etc., With the Collaboration of Mario A. Castallo, M.D., F.A.C.S., Assistant Professor of Obstetrics, Jefferson Medical College; Gynecologist to St. Mary's and St. Agnes' Hospitals; Obstetrician to St. Mary's Hospital; Diplomate, American Board of Obstetrics and Gynecology, etc. Illustrated. F. A. Davis Company, Publishers. Philadelphia. 1944.

This specialized medical dictionary is intended

(*Continued on page* 56)

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● Battle front or home front—the story is the same: There aren't enough hours in the day.

It may be a new offensive in the far-off Pacific with its inevitable toll of casualties; it may be an epidemic in a crowded defense area here on the home front—but *never* in history of man has the medical profession carried such a responsibility . . . carried it so magnificently.

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BOOK REVIEWS (Continued)

primarily for those interested in gynecology and obstetrics, the specialist himself, interns, residents, supervisors and nurse attendants in gynecological and obstetrical department of hospitals, clinics, etc., as well as for the general practitioner who desires a dictionary to give all terms used in these specialties without having to look through the general medical dictionaries with their tens of thousands of words on every subject in the practice of medicine.

The fact finding index presents many subjects which otherwise might be easily overlooked. The arrangement of subjects is to be commended especially, and is a great source of information on many subjects closely related. This system should appeal to many busy practitioners. For example under "Blood" will be found information on such subjects as blood changes in pregnancy, blood clot, blood count, blood grouping, blood mole, blood pressure, blood sugar, blood transfusions, blood urea, etc. Under blood transfusions, both indirect and direct methods are described with technic given, then reactions and nursing procedures carefully outlined.

This dictionary is more than the usual dictionary in that more information is given on the many subjects presented. At the end of the articles will be found related subjects which may also be found described in the book. The book should be popular with those for whom it was intended, and should prove to be a great source of information to the purchaser of the volume.

MANUAL OF MILITARY NEUROPSYCHIATRY: Edited by Harry C. Solomon, M.D., Professor of Psychiatry, Harvard Medical School, Medical Director at the Boston Psychopathic Hospital; Paul I. Yakovlev, M.D., Clinical Director, Walter E. Fernald State School, Instructor in Neurology at the Harvard Medical School. W. B. Saunders Company, Philadelphia and London, 1944. Price $6.00.

The book has been prepared especially for medical officers who frequently at the front, are unable to have a well stocked library available. This is intended as a reference text on topics of clinical neurology and neuropsychiatry. The material contained in the text was contributed by a staff of some 45 well known specialists on the subjects which are described.

The book is divided into six parts, the first, or introductory part deals with neuropsychiatric experiences in the first world war, and the role and general organization of neuropsychiatry in the army during the current war. Part two handles induction and discusses in much detail the neuropsychiatric screening at the induction stations, neurologic and psychiatric examinations of inductees. Part three outlines administration and disposition in which we find information relative to the organization of the

(*Continued on page* 58)



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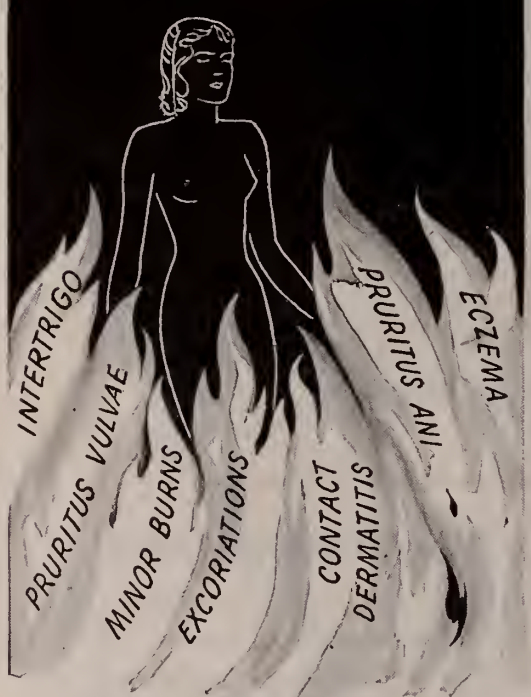
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BOOK REVIEWS (Continued)

medical department and the duties of the medical officer, neuropsychiatrists, the disposition of neuropsychiatric cases in the air forces of the army, the navy and the merchant marine, with a survey of the neuropsychiatric casualties at station hospitals and military camps from 1941 to 1943. Clinical entities are discussed in part four beginning with psychoneuroses and psychosomatic disorders, psychopathic personalities, alcohol and alcoholism, sexual deviates, malingering, and several other subjects, including principal psychoses encountered in military service.

Part five is devoted to considerations of prophylaxis and therapy, and part six discusses special topics, among which we find neuropsychiatric disorders in the tropics, neuropsychiatric aspects and treatments of convoy and torpedo casualties, neuropsychiatric experiences of the foreign armies as reflected in current literature, cerebrospinal fluid, and electro-encephalography, principal patterns and diagnostic evaluation.

The manual, although a pocket size edition with more than 750 pages, is indeed replete with information of much value to those interested in the problems in neurologic and neuropsychiatric practice in war service as well as to many who desire to purchase the book as a text on this highly important subject.

INTERNS HANDBOOK, A Guide, Especially in Emergencies, for the Intern and the Physician in General Practice. By Members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, A.B., M.D., Professor of Pharmacology, and Maynard E. Holmes, M.D., F.A.C.P., Professor of Clinical Medicine, Co-Chairmen, Publication Committee. Third Edition. J. B. Lippincott Company, Philadelphia, London, Montreal. Price $3.00.

This is the third edition of a popular book written especially for the intern who is constantly meeting new situations in his work, so that he will be better equipped to meet many of the emergencies. Part one on relationships is written primarily for the intern to show his relationship in the hospital personnel, and give him information of value in regard to medical jurisprudence.

Part two refers to laboratory medicine and gives the technic of the usual routine laboratory examinations. Part three on Medicine, refers first to the physical examination and history of the patient or relatives, giving pertinent information to aid in making the diagnosis. Then, much information is given relative to the various types of illness which the intern usually encounters in his hospital routine.

Part four on Surgery describes briefly such important subjects as paracenteces, preoperative care, emergency cases, post operative care, post operative

(*Continued on page* 60)



Rosy-fingered dawn . . .

That Homeric description applies particularly to the dawn which breaks after a night's refreshing sleep. And dawn can be rosy-fingered, even for those who suffer from functional insomnia, after a sleep induced by the action of a mild hypnotic like 'DELVINAL' SODIUM *vinbarbital sodium*—because there is a definite freedom from unpleasant side-effects or "hangover."

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BOOK REVIEWS (Continued)

complications, blood transfusions, and positions for physical examinations and treatments. Information dealing with anesthesia, with types of anesthetics and technic, follows. Then routine examinations and procedures in gynecology, obstetrics, ophthalmology, urology, protoctology and other types of conditions are discussed.

Part five deals with therapy, including biologics, then emergency treatment of acute poisoning and resuscitation are handled in such a manner as to give the intern the desired information at a glance.

This edition of a previously popular handbook should be of inestimable value to interns as well as to students for review purposes, and also to many busy practitioners who desire quick information on many subjects without unnecessary delay.

THE DIAGNOSIS AND TREATMENT OF ACUTE MEDICAL DISORDERS: By Francis D. Murphy, M.D., F.A.C.P., Professor and Head of the Department of Medicine, Marquette University School of Medicine and Clinical Director of the Milwaukee County General Hospital and Emergency Unit, Milwaukee, Wisconsin. F. A. Davis Company, Philadelphia, 1944.

The author, having been clinical director of a large county hospital for more than 20 years, observed that while chronic disorders are managed quite well, he has noticed that many difficulties are encountered in the care of acute disorders. The book is intended therefore, for the general practitioner and the medical student. It is hoped that they will be benefited by the information given relative to the diagnostic procedures and methods of treatment which are described in much detail.

The subjects discussed have been selected carefully as being those acute conditions most frequently encountered in the practice of medicine, and the book is in no way considered a monographic work. Less space is devoted to discussions of etiology and pathology and more consideration is given to the diagnosis and management of the conditions covered in the text. The first six chapters are devoted to consideration of diseases of the cardiovascular system under the headings, Vascular Disease, Diseases of the Blood, The Heart, with a considerable amount of space utilized with the various types of blood dyscrasias, diseases of the coronary arteries, the arrythmias, endocarditis and rheumatic fever.

Then the nervous system, including cerebral hemorrhage, embolism and thrombosis, metabolic diseases, the kidneys, lungs, acute abdominal emergencies, the liver and acute infections, follow. In keeping with the times, an interesting chapter is devoted to consideration of the tropical diseases and acute poisoning.

The last chapter on drugs is most interesting and well worth the price of the book alone. The author has had much experience in considerations of proper

(*Continued on page* 62)

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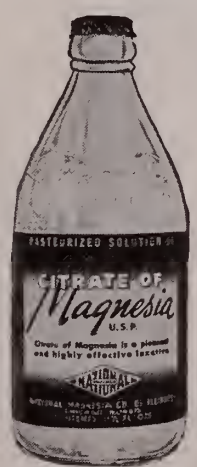
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BOOK REVIEWS (Continued)

therapy in acute diseases through his long clinical experience. His discussion of the indications for and the use of digitalis as the most reliable and most trustworthy of the drugs used in the treatment of cardiac diseases is most interesting. Indications and contraindications for the use of the popular drugs are carefully evaluated.

Likewise we note that the indications, contraindications, selection of type and warnings in the use of the sulfonamides are given in much detail. Warnings as to the toxic effects of the various types of the sulfonamides are well presented in the form of a graph. The abuses of thyroid therapy are most interesting, timely and indeed, to the point.

The book is well written and contains much information of value to the reader. It will no doubt be a much welcomed addition to the library of any physician or student.

Morbidity from tuberculosis in adolescence and early adult life is more frequently the result of household exposure after childhood than before, indicating that in early adult life infection from the environment is of greater importance than the breakdown of lesions acquired in childhood. Harold L. Israel, M.D. and Horace DeLien, M.D., Amer. Jour. of Public Health, Oct. 1942.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

CONTROL OF PAIN IN CHILDBIRTH: Anesthesia, Analgesia, Amnesia. By Clifford B. Lull, M.D., F.A.C.S., Clinical Professor of Obstetrics, Jefferson Medical College; Assistant Director, Philadelphia Lying-In Unit, Pennsylvania Hospital; and Robert A. Hingson, M.D., Surgeon, U. S. Public Health Service; Director, Post-graduate Medical Course, Philadelphia Lying-In Unit, Pennsylvania Hospital. With an introduction by Norris W. Vaux, M.D., Obstetrician-in-Chief, Philadelphia Lying-In Unit, Pennsylvania Hospital. 100 illustrations in black and white and 32 subjects in color. J. B. Lippincott Company, Philadelphia. Price $7.50.

LEAD POISONING: By Abraham Cantarow, M.D., Associate Professor of Medicine, Jefferson Medical College, Assistant Physician Jefferson Hospital, Bio-

(*Continued on page* 65)

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BOOKS RECEIVED (Continued)

chemist Jefferson Hospital, Philadelphia, Pa.; and Max Trumper, Ph.D., Lt. Commander, H-V (S), U.S.N.R., Naval Medical Research Institute, Bethesda, Md., Formerly Lecturer in Toxicology, Jefferson Medical College, Consultant in Industrial Toxicology, Cynwyd, Pa. The Williams & Wilkins Company, Baltimore, 1944. Price $3.00.

MANUAL OF CLINICAL MYCOLOGY: Prepared Under the Auspices of the Division of Medical Sciences of the National Research Council. Norman F. Conant, Ph.D., Asst. Professor of Bacteriology, Duke University School of Medicine; Donald Stover Martin, M.D., Associate Professor of Bacteriology and Associate in Medicine; Duke University School of Medicine; David Tillerson Smith, M. D., Professor of Bacteriology and Associate Professor of Medicine, Duke University School of Medicine; Roger Denio Baker, M.D., Associate Professor of Pathology in charge of Surgical Pathology, Duke University School of Medicine; Jasper Lamar Callaway, M.D., Asst. Professor of Medicine, in charge of Dermatology and Syphilology, Duke University School of Medicine. 348 pages with 148 illustrations. W. B. Saunders Company, 1944. Price $3.50.

"Stamp out VD" is the theme of this year's National Social Hygiene Day which will be observed on Wednesday, February 7, 1945. The need to maintain wartime gains against syphilis and gonorrhea, and to extend these gains into the postwar world, will be emphasized in Social Hygiene Day meetings and general educational programs throughout the country.

In 1943, a total of 861,000 cases of syphilis and gonorrhea were reported in the United States, which is 70 per cent more than the combined total of reported cases of diphtheria, malaria, meningitis, pneumonia, poliomyelitis, scarlet fever, smallpox, tuberculosis, typhoid, paratyphoid and typhus. Provisional statistics show that 25,277 cases of syphilis and 22,979 cases of gonorrhea were reported in Illinois in 1944. While science has produced drugs and medical research has produced new methods to combat the disease, VD can be eradicated only if the infected are found and brought under treatment and only if steps are taken by individuals to avoid infections.

Program suggestions for the observance of Social Hygiene Day may be had by writing to the American Social Hygiene Association, 1790 Broadway, New York 19, New York.

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SKIN TYPE OF ANTHRAX TREATED SUCCESSFULLY WITH PENICILLIN

Philadelphia Physicians' Report Is Believed To Be The First One On Use Of The Drug For This Disease In Human Beings

Three cases of uncomplicated human cutaneous or skin anthrax have been successfully treated with penicillin, Franklin D. Murphy, M.D.; Alfred C. LaBoccetta, M.D., and John S. Lockwood, M.D., Philadelphia, report in *The Journal of the American Medical Association* for December 9. "As far as we know," they say, "this is the first report on the use of penicillin in the treatment of patients with this disease."

Anthrax is an acute infection caused by Bacillus anthracis, occurring in three forms, on the skin, pulmonary or in the lungs and intestinal. It is most commonly found in sheep and cattle and in man results from infection through the skin, intestines or lungs.

As the authors point out, "Human anthrax, although not a widespread disease, continues to be an important medical problem among workers in the wool and leather industries. The introduction of more rational and effective methods of prophylaxis and treatment have lowered the incidence and death rate in anthrax but the disease continues to carry a significant mortality. In the five year period 1938 to 1942, exclusive of West Virginia, there were 390 cases of human anthrax reported in the United States, with a mortality rate of 13.8 per cent, which compares favorably with a mortality rate of 15.1 per cent during the period 1933 to 1937 and which represents a distinct advance over the period 1928 to 1932, when among 394 reported cases 106, or 26.8 per cent, ended fatally. . . ."

They say there is still not full agreement among authorities as to the treatment of choice.

The three Philadelphia physicians report that in the three patients treated by them, the response to penicillin was exceedingly prompt, bacteriologic studies showing that there was rapid disappearance of the disease organism from the skin lesion after the administration of the penicilliin.

They advise that "A total of 100,000 units of penicillin is certainly the minimum effective dose, and a total of 200,000 to 400,000 units, given at a rate of 100,000 units per day, should serve to evoke a satisfactory therapeutic response in the average uncomplicated case of cutaneous anthrax."

All three patients were women and wool workers. Two of them were infected on their forearms and one on her face.

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FIND GONORRHEA CAN BE CURED AS EASY IN WOMEN AS IN MEN

Results In 555 Cases Correspond With Army Findings; Negroes Respond Better Than White Persons, Investigators Say

The cure of gonorrhea with sulfonamide compounds and penicillin is as easy in women as in men, despite widespread beliefs to the contrary, Ruth Boring Thomas, M.D.; William E. Graham, M.D., and George R. Cannefax, of the U. S. Public Health Service Medical Center, Hot Springs, Ark., report in *The Journal of the American Medical Association* for November 4 as a result of studies carried out at their institution.

In 200 Negro women 90 per cent passed the tests of cure after one course of treatment, chiefly with sulfathiazole, and 95 per cent after two courses. In 355 white women 60 per cent passed tests of cure after one course of treatment and 70 per cent after two courses.

"These results," the three investigators say, "correspond closely to those recently reported with both Negro and white men in the Army. The evidence presented here indicates that under controlled conditions the bacteriologic cure of gonorrhea with sulfonamide compounds is as readily brought about in women as in men. This is true also for penicillin."

The authors point out that although the number of women with gonorrhea who have been treated with sulfonamides may run into the millions there have been few reports of results in groups of patients under proper treatment control. Their present report deals with women domiciled in an institution during the entire course of treatment and who were not released until tests indicated they were cured.

Another important finding was that the Negro is easier to cure of gonorrhea than a white person. This concurs with other findings. The first course of treatment of five days produced 60 per cent cures among the white women and 90 per cent among the Negroes; after the second course of five days the cures were 27 per cent among the white women and 53 per cent among the Negroes.

"An explanation of the difference in response to sulfonamide therapy between Negro and white patients must await the results of further investigation," the investigators say.

Most of the patients received sulfathiazole. Those found sulfonamide resistant were given other types of treatment. When penicillin became available it was used for these types of cases.

The healthy know not their health, but only the sick. Thomas Carlyle.

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PENICILLIN FOR EMPYEMA

Penicillin administered, by injection into a muscle, for one week before and for two weeks after the partial or total surgical removal of the lung appears to be useful in preventing pyogenic infections following the operation, nine Philadelphia investigators report in *The Journal of the American Medical Association* for December 16. Their report is based on results obtained in a study of 41 patients, 21 of whom received the penicillin treatment and 20 of whom served as controls.

The report is made by William L. White, M.D.; W. Emory Burnett, M.D.; Charles P. Bailey, M.D.; George P. Rosemond, M.D.; Charles W. Norris, M.D.; Grant O. Favorite, M.D.; Earl H. Spaulding, Ph.D.; Amedeo Bondi, Jr., Ph.D., and Russell Fowler.

None of the patients receiving penicillin prophylactically showed evidence of empyema, the investigators say, while 12, or 60 per cent, of the controls developed pus in the pleural or chest cavity. Patients with pus producing lung infections who had part or all of the lung removed and who received the penicillin not only showed no evidence of postoperative infection but also had less fever, were allowed out of bed earlier and were discharged sooner than control patients. No toxic reactions were noted in the penicillin patients.

A near relative of sulfadiazine has been prepared by Imperial Chemical (Pharmaceuticals) Ltd., termed sulfamethazine. This compound has the advantage over sulfadiazine of being highly soluble, so that a concentrated preparation (1 Gm. in 3 cc.) can be given intravenously where required, while the risk of renal damage from insoluble crystals is probably obviated.

This new drug has been tested on a series of seventy-three patients with lobar pneumonia and in a few cases of meningococcal meningitis and acute gonorrhea. For pneumonia therapy an initial dose of four Gm. was given followed by two Gm. every six hours. This, while clinically effective, gave very irregular blood concentrations, varying from 2-13.5 mg. per 100 cc. This irregularity in absorption and in the amount of drug acetylated is found with other sulfonamides, including sulfadiazine, and seems to some extent to depend on the patient rather than on the drug or the The same population group had an additional 2.5 visits per person for illness not related to the chronic disorder. Patients with chronic disease, therefore, had from three to four times as much medical care (measured by the number of visits from a physician!) as did the other members of their families and the general population studied. Persons in the 381 'chronic disease families' formed 26 per cent of the total observed population, had 54 per cent of the total illnesses and received about 50 per cent of the medical care for illness given to the total population. Persons from these few families also constituted almost 40 per cent of the persons hospitalized during the second year of the morbidity study. . . ."

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Soften dry skin with AR-EX CHAP CREAM! Contoins corbonyl diamide, shown in hospitol test to moke skin softer, smoother, and even whiter! *Archives of Derm. ond S., July, 1943.* FREE SAMPLE.

PRODUCT OF
AR-EX
COSMETICS

AR-EX COSMETICS, INC., 6 N. MICHIGAN AVE., CHICAGO 2, ILL.



"SORE THROAT"
ACUTE AND CHRONIC TONSILLITIS
PHARYNGITIS
AFTER TONSILLECTOMIES

Aspergum

● In chewing Aspergum, the patient releases a soothing flow of saliva laden with acetylsalicylic acid—bringing the analgesic into *prolonged* contact with pharyngeal areas which often are not reached, even intermittently, by gargling or irrigations.

The gentle stimulation of muscular activity greatly helps relieve local spasticity and stiffness, increasing patient comfort, permitting an earlier ingestion of nourishing food, hastening convalescence.

Aspergum is pleasantly flavored—it is readily accepted by all, including children and adults of finicky taste.

Ethically promoted—not advertised to the laity. In packages of 16; moisture-proof bottles of 36 and 250 tablets. White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, New Jersey.



Dillard's **Aspergum**

N Y Acad of Med
5 Ave & 103rd
New York N Y
Mixon



COLONIAL HALL
One of the 14 Units in "Cottage Plan"

FOR NERVOUS DISORDERS

MAINTAINING the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

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THE N.Y. ACADEMY OF MEDICINE
MAR 12 1945
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The ILLINOIS Medical Journal

VOL. 87 NO. 2

February, 1945

In This Issue

The Present Day Status of Venereal Disease Control and Treatment

✦

Observations on The Development of Silicosis

✦

(See page 33 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY

Floraquin...

effective in all types of Vaginal Leukorrhea

Because Floraquin assists in restoring vaginal acidity while destroying the pathogenic flora, and rebuilds the vaginal mucosa in both thickness and glycogen content, its usefulness is not confined to any one particular type of vaginal infestation.

FLORAQUIN

contains the nontoxic protozoacide, Diodoquin, in addition to lactose and dextrose which establish and maintain an acidity (pH 4.0) unfavorable to vaginal infections.

FLORAQUIN POWDER—for office insufflation—
1-oz. and 8-oz. bottles.

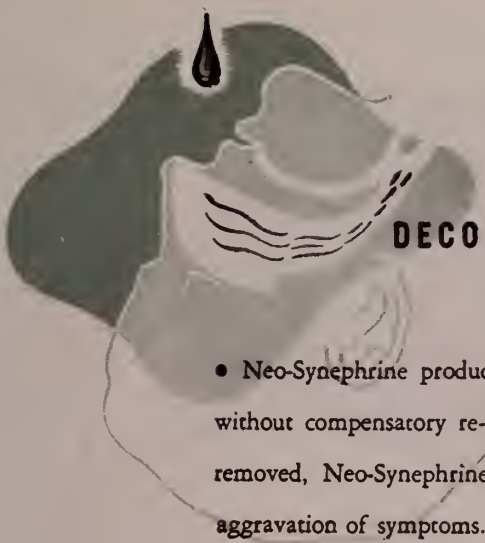
FLORAQUIN TABLETS—for home use—boxes of 24.

G. D. Searle & Co., Chicago 80, Illinois.

Floraquin and Diodoquin are the registered trademarks of G. D. Searle & Co.

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE



DECONGESTIVE BUT NOT RE-CONGESTIVE

• Neo-Synephrine produces prompt and enduring nasal decongestion, without compensatory re-congestion. When the cause of congestion is removed, Neo-Synephrine may be discontinued immediately without aggravation of symptoms.

Neo-Synephrine

HYDROCHLORIDE

LAEVO-α-HYDROXY-β-METHYLAMINO-3-HYDROXY-ETHYLBENZENE HYDROCHLORIDE

FOR NASAL DECONGESTION



SUPPLIED in ¼% and 1% solution, bottles of 1 fl. oz., also ½% jelly in collapsible tube with applicator.

Frederick Stearns & Company

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NEW YORK • KANSAS CITY • SAN FRANCISCO • WINDSOR, ONTARIO • SYDNEY, AUSTRALIA • AUCKLAND, NEW ZEALAND

FACTS ABOUT NEO-SYNEPHRINE

PROMPT, prolonged nasal decongestion through local vasoconstriction following topical application.

EQUALLY EFFECTIVE upon repeated use.

WELL TOLERATED locally, the solutions are isotonic and virtually non-irritating to nasal mucosa.

CILIARY ACTION is not appreciably impeded.

RELATIVE FREEDOM from systemic effects widens the range of usefulness for Neo-Synephrine—manifestations of central nervous system stimulation are rarely observed.

INDICATED for symptomatic relief in the common cold, sinusitis, nasal manifestations of allergy, and similar conditions.

ADMINISTRATION may be by dropper, spray, or tampon.

FURTHER FACTS FOR YOUR REFERENCE FILE WILL BE GLADLY SENT ON REQUEST

TRADE MARK NEO-SYNEPHRINE—REG. U. S. PAT. OFF.

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918. Office of Publications, 715 Lake Street, Oak Park, Ill.

Fit at Fifty



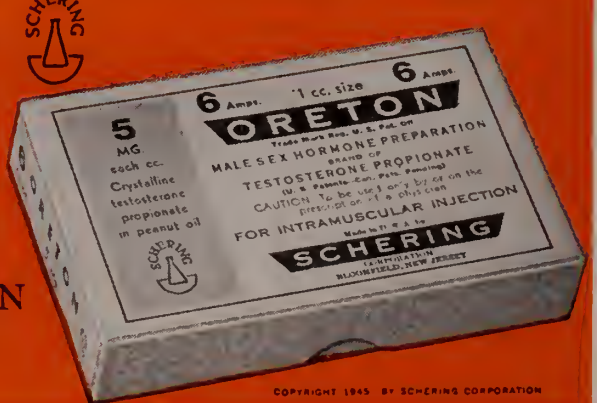
Middle age to most men means the peak of their business and social careers. To meet these responsibilities, it should also mean the peak of their physical and mental efficiency.

Easy fatigability, exhaustion, insomnia, increasing indecision and irritability, as well as vasomotor, cardio-vascular, and genito-urinary disorders are often symptoms of endocrine imbalance during the male climacteric.

In the male climacteric, Oreton* may be given intramuscularly until symptoms are controlled. Therapy may usually be maintained with Oreton-M* Tablets or Oreton-M Ointment.

*Trade-Marks Reg. U. S. Pat. Off.

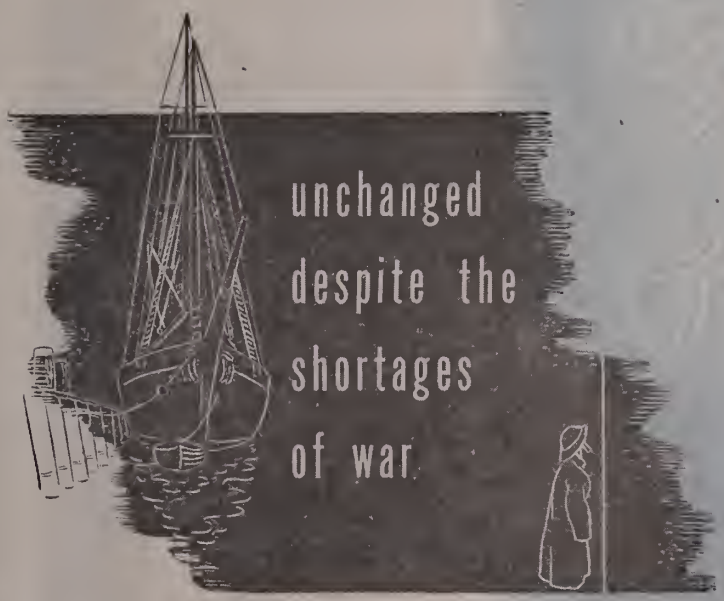
SCHERING



SCHERING CORPORATION

Bloomfield, New Jersey

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you can still prescribe — and your patients can still obtain — the natural vitamins of time-honored cod liver oil itself, in the three pleasant dosage forms of

white's cod liver oil concentrate

. . . drop dosage for infants; tablets for youngsters and adults; capsules for somewhat larger dosage, or wherever capsular medication is preferred.

No Increase in Cost-to-Patient

Despite its advantages in potency, stability, palatability and convenience, the cost of White's Cod Liver Oil Concentrate has always compared favorably with that of plain cod liver oil. Current shortages, however, have resulted in much higher prices for the plain oil, while the price to patient of White's Cod Liver Oil Concentrate has been maintained at its established economy level. Prophylactic antirachitic dosage for infants STILL costs less than a penny a day. Council accepted; ethically promoted. White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, N. J.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

White's

Here — in Illinois for first time!
NESTLÉ'S EVAPORATED MILK
with a great new improvement

400 UNITS OF VITAMIN D_3*

PER PINT



Today—to meet a recognized need—Nestlé's has produced an improved evaporated milk with *greater Vitamin-D content.*

*25 USP units of Vitamin D_3 in the form of Irradiated 7-Dehydrocholesterol, have been added to each fluid ounce—so that this *new* Nestlé's Milk supplies 400 USP Units of Vitamin D_3 per reconstituted quart.

This improved product is now on grocers' shelves under the label shown above. The name Nestlé's on this label is your guarantee that there's no finer evaporated milk. *Fortification with Vitamin D_3 does not alter this milk's flavor or destroy any of its natural vitamins.*

So the extra advantages of NESTLÉ'S Evaporated Milk will be available to everyone—despite the increase in Vitamin D, there has been *no increase in price.*

No feeding instructions furnished to the laity.

NESTLÉ'S MILK PRODUCTS, INC.
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OVER 40% REDUCTION IN PRICE Enthusiastic and widespread recognition among physicians of the therapeutic merit of Progestin 'Roche-Organon' (progesterone) has sharply increased its clinical use. The increased volume of production required to meet this great professional demand has brought about manufacturing economies which enable us to announce another substantial reduction in the prices of Progestin Ampuls—over 40% reduction from the current prices which in turn are 50% or more below the introductory prices.

Financial limitations of your patients, which until now may have prevented you from using parenteral luteal therapy in many cases of dysmenorrhea, premenstrual tension, functional uterine bleeding, and spontaneous abortion, need no longer restrict your use of Progestin 'Roche-Organon'. In view of the new reduced prices, practically no patient who requires treatment with the corpus luteum hormone need be denied the benefits of Progestin therapy. Progestin Ampuls, 1 cc, for parenteral therapy, are available in 4 strengths: 1 mg, 2 mg, 5 mg (boxes of 6 and 50) and 10 mg (boxes of 3, 6 and 50).

ROCHE-ORGANON, INC.
Roche Park, Nutley 10, N. J.

Progestin 'ROCHE-ORGANON'



• It is not surprising that physicians call CALCREOSE "a happy combination". In this popular cough preparation, the potent bronchial expectorant and antiseptic—creosote—is chemically combined with calcium . . . thereby increasing creosote's bacteriostatic and bactericidal action up to three times, and (at the same time) insuring equally good absorption[1].

• Thus, Calcreose possesses all the well-known benefits of creosote[2], yet successfully masks its disagreeable odor and taste.

• In many bronchial and respiratory affections, Calcreose will aid in lessening cough, diminishing expectoration, reducing its purulency, and deodorizing sputum (in fetor of bronchial secretions).

• Especially important: Calcreose is freely tolerated; even in large doses, it causes no gastric irritation or nauseous reaction!

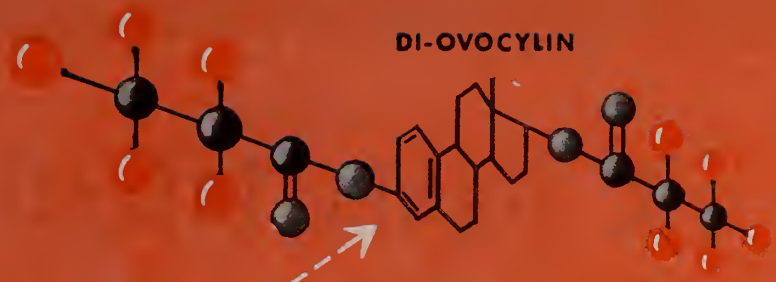
[1] Fellows, E. J.: J. Pharm. & Exper. Ther., 60:178, 183, 1937.
[2] Stevens, M. E. et al: Canad. Med. Assn. J., 48:124, 1943.

CALCREOSE

THE MALTBIE CHEMICAL COMPANY · NEWARK, N. J.

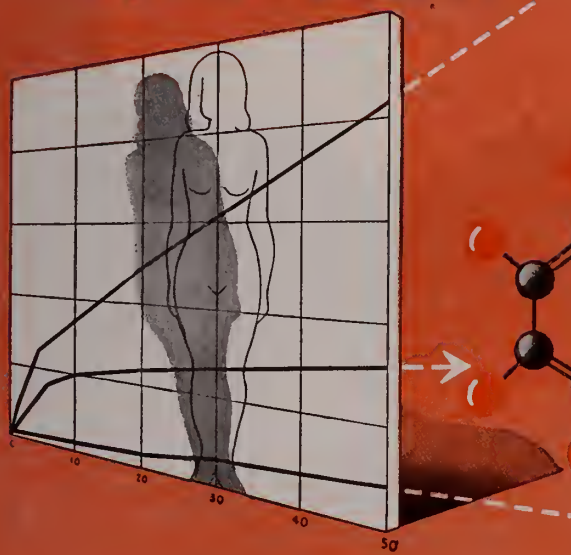
DOSAGE: 2 tablets Calcreose 4 gr.; or 1 to 2 tspfl. Compound Syrup Calcreose, as preferred.

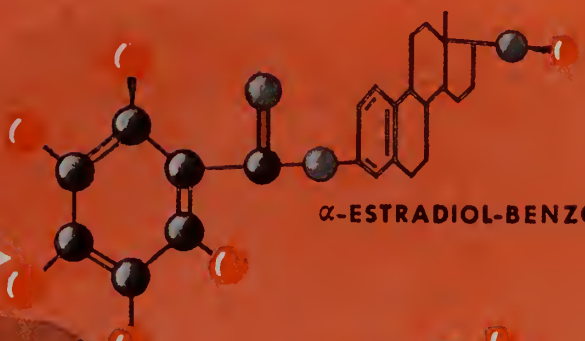
AVAILABLE: Tablets Calcreose 4 gr., brown coated, in bottles of 100, 500 or 1000; Compound Syrup Calcreose in pint or gallon bottles



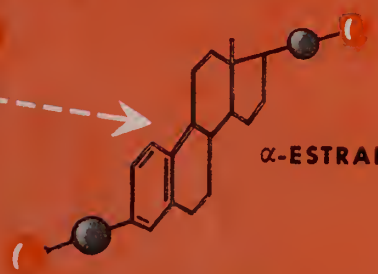
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INTENSE ESTROGENIC EFFECTS





α-ESTRADIOL-BENZOATE



α-ESTRADIOL

WITH FEWER INJECTIONS

Esterification greatly prolongs the action of the natural ovarian hormone providing a more gradual physiological effect. DI-OVOCYLIN* (α-estradiol dipropionate) is the most ideal ester providing both potency and duration of effect.

With fewer injections, DI-OVOCYLIN promptly controls symptoms associated with estrogenic deficiency. It is both economical for the patient and time-saving for the physician.

DI-OVOCYLIN*

*Trademark Reg. U. S. Pat. Off.

a Ciba Product

CIBA PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

CANADIAN BRANCH: MONTREAL, CANADA

It fights infection while she sleeps



The striking success of Paredrine-Sulfathiazole Suspension in nasal and sinus infections is largely due to its prolonged bacteriostatic action. When the Suspension is administered on retiring, for example, sulfathiazole can often be observed on infected mucosa the next morning—conclusive evidence that bacteriostasis has persisted all night long.

The fundamental reason for this prolonged bacteriostatic action is the fact that Paredrine-Sulfathiazole Suspension—not a solution, but *a suspension* of free sulfathiazole—covers the nasal mucosa with a fine, even frosting of sulfathiazole, which does not quickly wash away. Yet the Suspension does not cake or clump, and does not interfere with normal ciliary action.

Other outstanding advantages:

1. The Suspension does not irritate or sting, because its pH is slightly acid, and identical with that of normal nasal secretions.

2. The Suspension does not produce such central nervous side effects as insomnia, restlessness and nervousness.

Smith, Kline & French Laboratories, Philadelphia, Pa.

PAREDRINE-SULFATHIAZOLE SUSPENSION

1 *Prolonged* bacteriostasis

2 *Non-stimulating* vasoconstriction

3 *Therapeutic* pH—5.5 to 6.5

Faster Response

IN SECONDARY ANEMIA



In the correction of the anemic state Livitamin not only leads to rapid hemoglobin regeneration, but also aids in the eradication of the usually associated conditions. Its iron is highly available and promptly utilized; its contained liver concentrate presents the fractions found valuable in the anemias; its rich store of B-vitamins overcomes the frequently severe anorexia and corrects the nutritional deficiencies which almost invariably are encountered in hypochromic anemia. Since Livitamin is in liquid form, dosage is easily adjusted to the patient's need. Its palatable taste is appreciated by all patients, and especially by children.

LIVITAMIN



Each fluidounce of Livitamin presents:

Fresh liver (as liver concentrate)	2 oz.
Thiamine hydrochloride (B_1) (3 mg.)	1000 U.S.P. Units
Riboflavin (B_2, G)	1 mg.
Nicotinamide (niacinamide)	25 mg.
Pyridoxine hydrochloride (B_6)	1 mg.
Pantothenic acid	5 mg.
Filtrate factor	20 J. L. Units
Iron and Manganese peptonized	30 gr.

In doses of 2 to 4 teaspoonfuls t. i. d. Livitamin rapidly corrects hemoglobin deficiency. Available in 8-oz. bottles.

THE S. E. MASSENGILL COMPANY

Bristol, Tenn.-Va.

NEW YORK • SAN FRANCISCO • KANSAS CITY

SEMCO

A WOMAN'S PEACE OF MIND

No one understands the complexities of a woman's mind as well as her physician. He is fully aware that the menstrual period may often initiate temporary psychosomatic difficulties, or aggravate existing emotional maladjustments.

Today – with so many exacting demands upon women – any measure which contributes to her greater sense of comfort and well-being merits the physician's special attention.

Perhaps no single measure brings a woman such a welcome sense of physical and mental relief during the menses as the use of TAMPAX, the original vaginal tampon for improved menstrual hygiene.

This is because TAMPAX fits so comfortably in situ... eliminates all external bulkiness... precludes the possibility of exposure of the discharge to odorous decomposition ... abolishes vulvar irritation and chafing from perineal pads ... and permits freer indulgence in sports and other physical activities.

Results of recent studies[1,2,3] in thousands of cases confirm the fact that TAMPAX meets all the requirements of modern hygiene – providing thoroughly *adequate* and *safe* protection. Equally important (as one gynecologist has stated), with TAMPAX "many patients say they can forget that they are menstruating and so are without the disturbing annoyance they had every time they menstruated."[1]

(1) West. J. Surg., Obst. & Gyn., 51:150, 1943; (2) Clin. Med. & Surg., 46:327, 1939; (3) Am. J Obst. & Gyn., 46:259, 1943.

TAMPAX

ACCEPTED FOR ADVERTISING BY THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

TAMPAX INCORPORATED
PALMER, MASSACHUSETTS
Please send me a professional supply of the three absorbencies of Tampax.

Name_____

Address_____

City_____

IL-25

recent extensive investigation confirms contraceptive effectiveness of the active ingredient in Koromex Jelly

A most illuminating report based on extensive clinical and experimental data has recently been published by Eastman and Scott (Human Fertility, 9:33, (June) 1944.) These authors studied the safety and efficacy of phenylmercuric acetate which is the active constituent of Koromex Jelly.

1 Clinical evidence showed that in actual use, phenylmercuric acetate jelly had a remarkable record for contraceptive efficiency.

2 The earlier work of Baker, Ranson and Tynen (Lancet, 2:882, (October 15), 1938), showing a very high spermicidal potency, was confirmed.

3 Toxicity was found low.

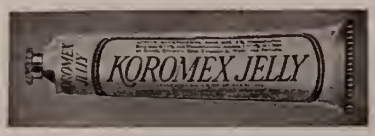
4 No evidence of irritability on the part of either the husband or wife.

In addition to the above qualities, Koromex Jelly, which also contains oxyquinoline benzoate and boric acid in a well buffered glycerine gum base, has the properties of adhering firmly to the vaginal lining and mixing readily with the vaginal secretions. It has optimum spreading qualities. Its pH of 4.6 is constantly maintained even in the presence of the buffering action of the protein seminal fluid.

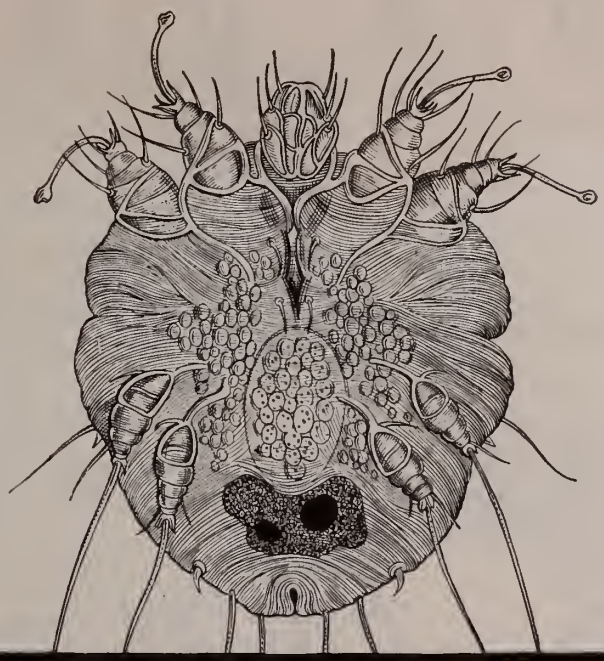
Koromex Jelly does not stain. Is not excessively lubricating, and is well tolerated. Because of these qualities you can assuredly — prescribe Koromex *with confidence.*

Write for Literature.

Holland-Rantos Company, Inc. · 551 Fifth Ave. · New York 17, N. Y.



prescribe Koromex *with confidence*



A NEW effective treatment for Scabies

No longer are slow, greasy ointments with their attendant messiness necessary to treat scabies. In their stead has come quick, easily applied, highly parasiticidal benzyl benzoate emulsion. • • • Writes Mackenzie[1]: "The ease and speed with which the application can be carried out . . . rapidity of cure, and the almost immediate relief from itching combine to make it a satisfactory remedy from both the clinical and the public health aspects."

'WELLCOME' BENZYL BENZOATE EMULSION 50%

Application: Following a thorough soap and water bath, the emulsion (diluted to 25%) is painted on the entire body, allowed to dry, and then reapplied. A warm bath, 24 hours later, completes the treatment. Bottles of 4 fluidounces and ½ gallon.

1. Mackenzie, I. F.: Brit. M. J. 2:403, 1941.

Literature on request

'Wellcome' Registered Trademark

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9-11 E. 41st St., New York 17, N. Y.

MILK DIETS



are usually deficient in B vitamins

Average human and cow's milk, in the amounts usually present in the ordinary diet of early infancy, provides less than the safe daily allowances* of thiamine and nicotinic acid and, in the case of human milk, of riboflavin as well. [1, 2]

White's

MULTI-BETA LIQUID

—supplies the clinically known factors of B complex in drop dosage form—and is specifically formulated to supplement the average diet of early infancy in those very factors in which it is too frequently deficient, and *in amounts proportionate to the dietary inadequacy of these B factors.*

The daily addition of *five drops* of White's Multi-Beta Liquid to the usual formula or to the diet of the breast-fed infant will provide generous amounts of the clinically proved B factors.

Prepared in a tasty, non-alcoholic vehicle, White's Multi-Beta Liquid is readily miscible in any formula or fruit juice, or may be administered directly.

In 10cc., 25cc. and 50cc. bottles (with droppers) and 8 oz. dispensing size. Ethically promoted—not advertised to the laity. White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, N. J.

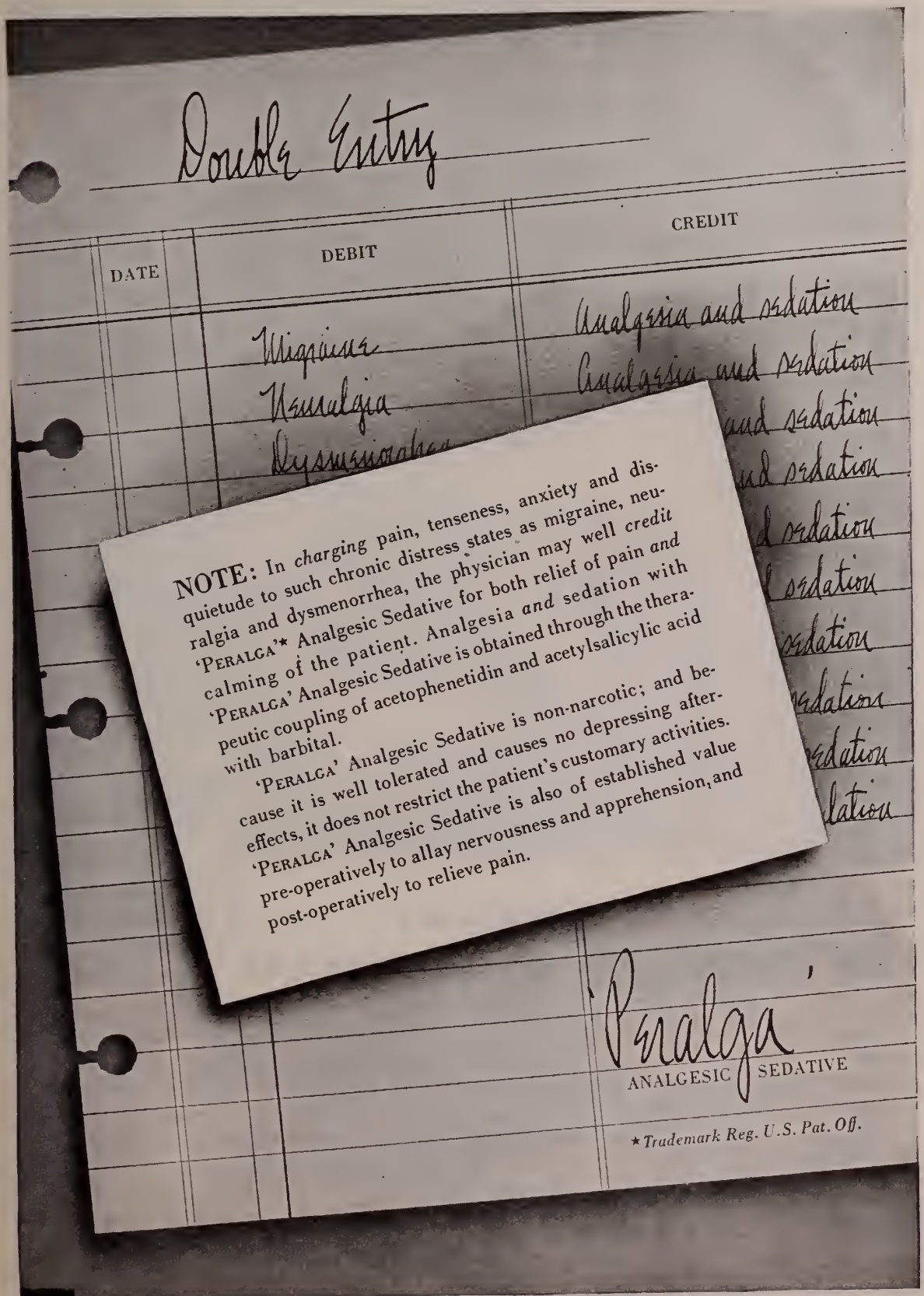
1. Marriott, W. McKim: "Infant Nutrition", revised by Jeans, Mosby, St. Louis, 3rd Ed., 1941.

2. Jeans, P. C.: "The Feeding of Healthy Infants and Children", J.A.M.A. 120:193, 1942.

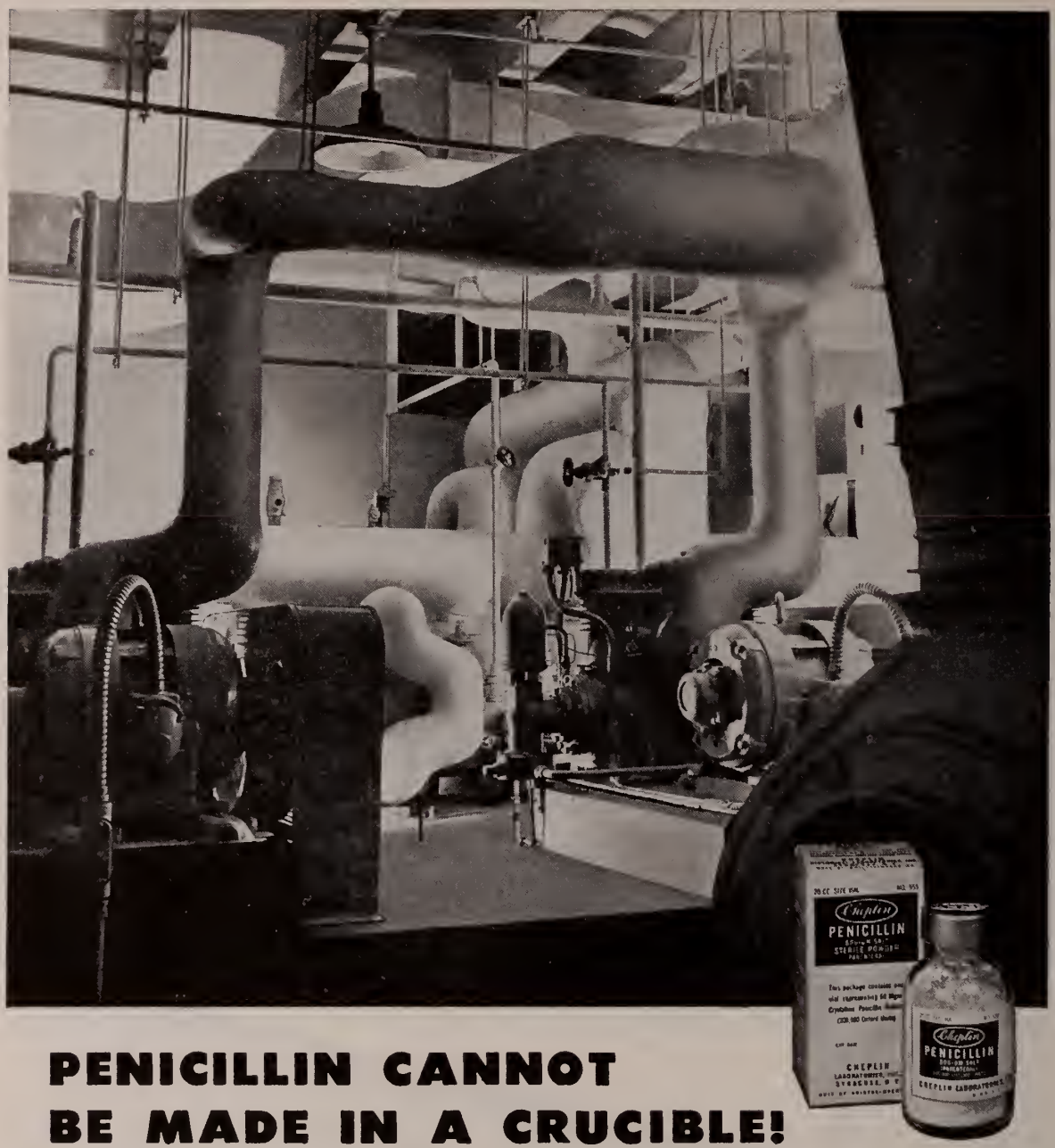
**Recommended daily allowances—Committee on Foods and Nutrition, National Research Council.*

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White's PRESCRIPTION vitamins



SCHERING & GLATZ, INC.
a subsidiary of WILLIAM R. WARNER & CO., INC., 113 WEST 18TH STREET, NEW YORK 11, N.Y.



PENICILLIN CANNOT BE MADE IN A CRUCIBLE!

Bring back Paracelsus and his crucibles today... show him the clinical picture of Penicillin... take him on a trip through a great Penicillin plant like that of Cheplin Laboratories. What would he think? Your guess is as good as ours!

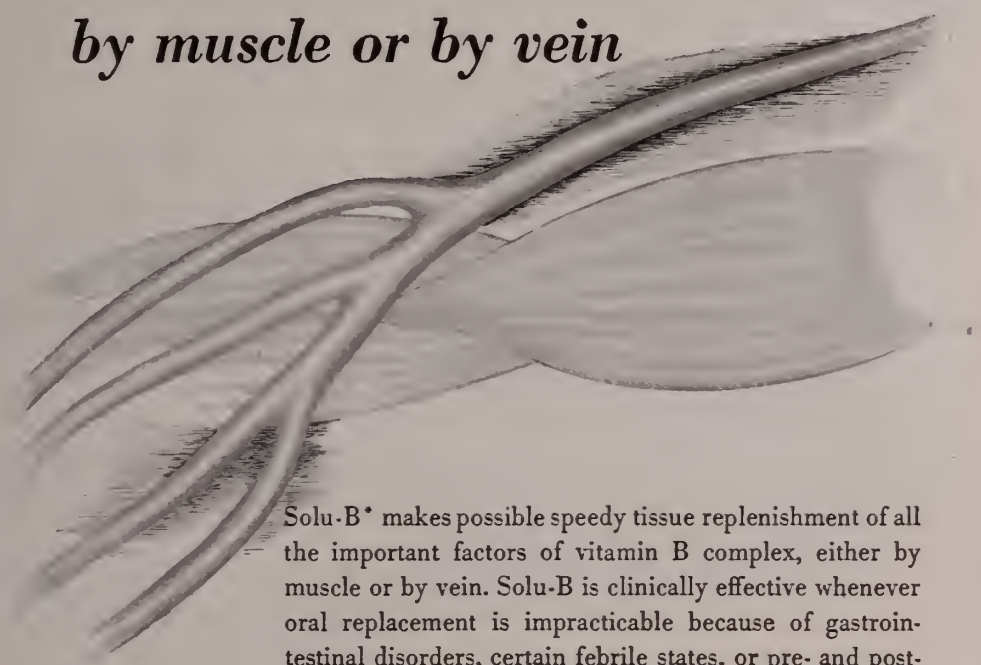
Just as strides in clinical medicine have been unmeasurable since Paracelsus' time, so too have been the strides in mass-manufacture and plant-investment. In the Cheplin plant at Syracuse, for instance, there are alone thirty miles of pipe needed to make this new "wonder-drug."

Who can state Medicine and the Pharmaceutical Manufacturer aren't working together for a better post-war world? And Cheplin is doing its bit!

CHEPLIN
LABORATORIES INC.
(UNIT OF BRISTOL-MYERS COMPANY)

SYRACUSE • NEW YORK

by muscle or by vein



Solu-B* makes possible speedy tissue replenishment of all the important factors of vitamin B complex, either by muscle or by vein. Solu-B is clinically effective whenever oral replacement is impracticable because of gastrointestinal disorders, certain febrile states, or pre- and postoperative restrictions. Improvement in deficient patients is rapid and dramatic.

SOLU-B is highly stable, instantly soluble, and readily prepared for parenteral therapy. Each 10 cc. vial provides:

Thiamine Hydrochloride	10 mg.
Riboflavin	10 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	50 mg.
Nicotinamide	250 mg.

Packaged in vials of 10 cc., each vial accompanied by one 5 cc. ampoule of sterile water; in boxes of 5 vials with 5 ampoules of sterile water; and in boxes of 25 vials of Solu-B without water.

*Trademark, Reg. U. S. Pat. Off.

Upjohn

FINE PHARMACEUTICALS SINCE 1886 • KALAMAZOO 99, MICHIGAN

FIGHT INFANTILE PARALYSIS—JANUARY 14-31

Unimpeded Response

BECAUSE OF

DEPENDABLE SAFETY

New hope for the sufferers from acne, psoriasis, and keratosis follicularis is substantiated by an extensive and rapidly growing bibliography which describes the beneficial results obtained with massive dosage of vitamins A and D.*

Because of the systemic nature of these resistant skin affections, the indicated massive dosage of vitamins A and D must be administered uninterruptedly for relatively long periods, in order to obtain maximal response. This continuous, intensive treatment is possible only when a nontoxic form of medication is chosen for administration.

APOLARTHRON, the only high potency preparation of vitamins A and D derived entirely from natural sources, has proved to be a dependably safe, and effective method of treating such skin diseases as acne, psoriasis and keratosis follicularis.

**Complete bibliography on request.*

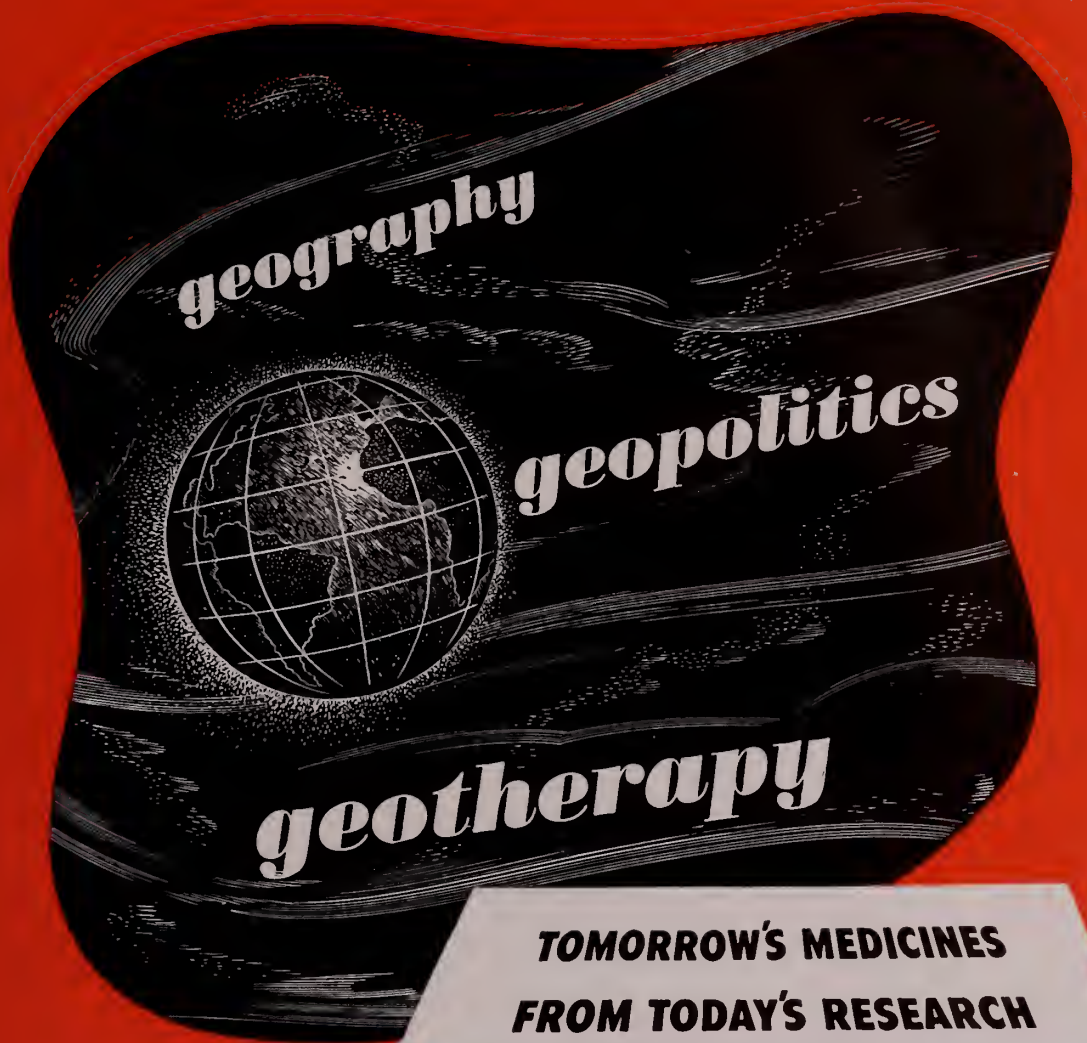
Each capsule of Apolarthron contains 25,000 U.S.P. units of natural vitamin D and 30,000 U.S.P. units of natural vitamin A. Available on prescription through all pharmacies in packages of 60 capsules.



J. B. ROERIG & COMPANY

536 Lake Shore Drive • Chicago 11, Illinois

APOLARTHRON



TOMORROW'S MEDICINES FROM TODAY'S RESEARCH

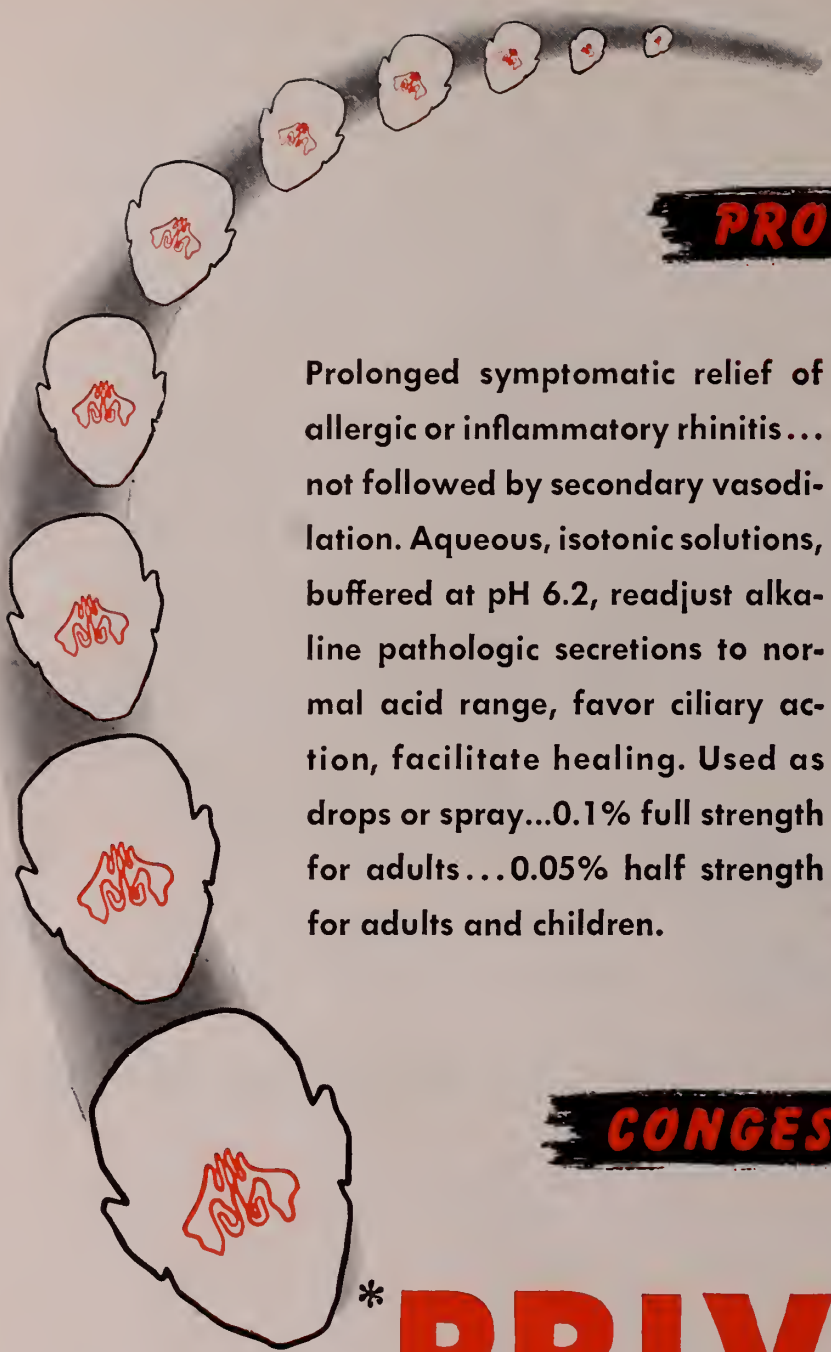
• With the coming of the war, we of Ciba accepted the responsibility of supplying free men of medicine—both military and civilian—with reliable and modern medicaments to perform their vital missions. We worked hard at our task. We are proud of our accomplishments.

• This was the beginning of a new era for us. It opened a new horizon of world medicine—geotherapy. Today we have a new concept toward which to direct our research. We fully realize that American medicine has ahead the gigantic task of rehabilitating the wounded fighting man, as well as the eradication and control of disease contracted in foreign lands.

• Soon all men will be talking and thinking of world peace. The American physician will be concerned also with world medicine. Ciba prepares and stands ready to serve. We have a creed which is always in our minds—Tomorrow's Medicines from Today's Research.

CIBA PHARMACEUTICAL PRODUCTS, INC.

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RELIEF

OF

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*Reiter, P. J., Experience with Benzedrine, Ugeskr. f. laeger, 99:459-460, 1937.

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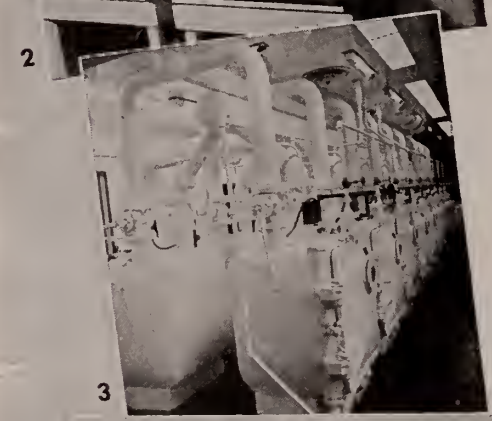
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3



4

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2. Vial-filling; note the precautions used.

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5. The C.S.C. penicillin plant.

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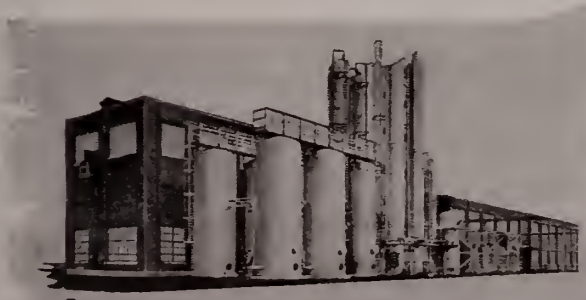
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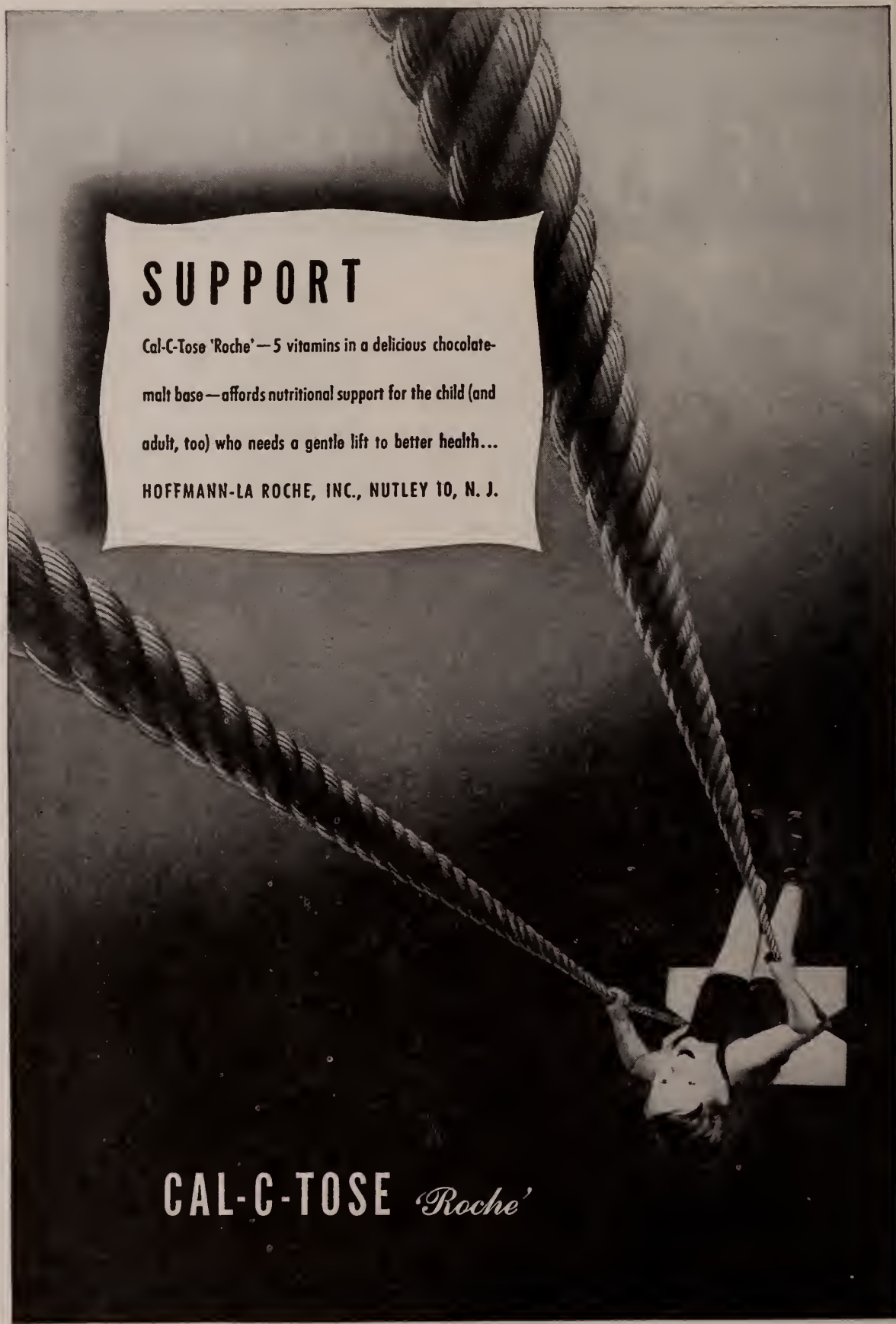

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February, 1945
VOL. 87, NO. 2

The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

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Editorials

AS OTHERS SEE US

Physicians working overtime these days with so many members of their profession serving with our armed forces, have been encouraged recently by various expressions in the editorial columns of popular city papers. A recent editorial appeared in the St. Louis Globe-Democrat entitled "Spearhead of Socialized Medicine" which should be read by physicians everywhere, and copies should be available for their many friends.

The editorial is as follows:

"The drive to legislate a medical police force into every American home has begun. And, shrewdly, the proponents have tipped their spearhead with public health reforms none can deny are needed.

"This is obvious in the report of a Senate subcommittee which recommends a vast post-war program, including government loans or grants for federal-state construction of adequate urban and rural hospital facilities, expansion of state health departments, installation of needed water and sewer systems and milk pasteurization plants, extension of medical care to all recipients of public assistance, establishment of more child-guidance and mental-hygiene clinics, expansion of medical and dental education facilities and opportunities, and improvement of school health programs to correct health defects in children.

"So far, so good. These needs have been known a long time. But later the report says: "Before federal funds could be granted, however, over-all state plans and individual projects should be reviewed by the United States Public Health Service to make sure they meet certain standards." A handy stirrup to federal control. Then: "In communities where sufficient income from fees of individual patients does not otherwise appear probable, provision for group pre-payment plans, or both, should be required." This ultimately could only mean compulsory health insurance or tax-supported medicine, either of which amounts to another enforced levy on workers' earnings.

"It made no specific recommendation of the controversial Wagner-Murray-Dingell bill, except to say the subcommittee concluded that "the pay-as-you-go method of meeting doctor bills is unsatisfactory to most people". Also the report significantly made no estimate of the cost, leaving the inference it will be large.

"Although an over-all approach to such a widespread problem generally is better than a piece-meal one, the subcommittee in this instance clearly lumped undesirable with desirable reforms through fear the former cannot stand alone. There is no question the medical profession has fallen down in some aspects of its reputed mission of public service, but that doesn't mean the people therefore are willing to admit a federal foot in every doorway — a foot that can only lead to compulsory medication whenever some officeholder so decrees.

"The innovations in the report should be submitted and judged on their individual merits; otherwise the progressive reforms must go down to defeat with the others."

Another interesting editorial appeared in the December 31, 1944 issue of the Chicago Tribune under the heading, "The Wrong Weather Map", which we also will reproduce in its entirety.

THE WRONG WEATHER MAP

"A congressional committee which has been investigating the scores of hospitals already established to treat wounded soldiers has reported that for the most part the soldiers are getting the best of care. It did find some instances of maladministration, which are excusable in a rapidly expanding organization if they are corrected as quickly as they come to light.

"One thing that the committee did uncover, however, should make every citizen pause when the proposal to federalize medicine and hospitalization for civilians is brought forward. A rather wide lack of air conditioning was discovered in hospitals where it should have been installed. Operating rooms were found so hot as to be unbearable and in orthopedic wards, the report says, the sufferings of patients in plaster casts were intensified during hot weather. The congressmen attribute the lack of air conditioning where it is needed to the army's system of deciding where it should be installed.

" 'It seems,' the report said, 'that for determining whether air conditioning is necessary the war department has theoretically divided the country into thermal zones which are based upon mean, high, and average low temperatures. Obviously, maximum temperatures and humidity, rather than average, should be the determining factor'."

"The army medical corps in time of war has the call on the best surgeons and hospital administrators in the country. Many physicians have left practices which yielded them handsome incomes to work for army pay. There is no lack of funds to equip hospitals and there should be no lack of equipment. And certainly the war department and the medical corps should be credited with the greatest good will in their effort to give wounded men the best treatment possible.

"Yet under these circumstances men are found suffering unnecessarily. The reason lies in the inescapable stupidity of a bureaucracy. Staff it with the smartest people in the world and its red tape would still make their combined efforts stupid. Somebody in Washington decided that the proper way to allocate air conditioning equipment was to do it by a weather map. The wrong kind of weather map was picked but nobody in the hierarchy seems to have had the initiative or the power to reverse the error made at the top, and so soldiers suffer.

"No conceivable federalized health or hospital service could expect to draw to itself even a small measure of the talents that are available to the army medical corps at present. It would still have the inescapable stupidity of bureaucracy, intensified by a permanent bureaucratic personnel whose members' chief interest inevitably becomes that of avoiding trouble, escaping decisions, and thereby continuing to draw their pay.

"A hospital might need air conditioning, it might

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need a new sterilizer, it might need additional beds, but if its need didn't fit into the preconceived notions of Washington, based on some weather map or statistical table, it wouldn't get them and the people it was expected to serve would suffer. This country is too big and too complex to be run from Washington."

The New York Times under date of January 5, 1945 had an article entitled "The Medics" which praises highly the work of the medical corps with our fighting forces.

"The 'medic' is a must in any fighting force. He is likely to combine the functions of Kipling's Gunga Din, Florence Nightingale, the Good Samaritan and the most skillful surgeon science has produced. He frequently does so at the cost of his own life. Unarmed stretcher-bearers seek out the wounded where the shells are still striking. Because they know that time is of the essence, they are always in a hurry. Sometimes a complicated operation has to be performed in a fox-hole. During the Metz offensive a 19-year-old medical aide saved a doughboy's life by cutting a fountain-pen tube into his throat with a pocket knife. But they try hard to get the victim to the nearest hospital. Maybe it is a blasted barn or an open cellar. It may be a tent over the brow of the next hill, with the surgeons operating under enemy fire. At Bastogne two or three surgeons had to handle 800 patients with nothing to dull their pain but cognac. Everybody cheered when five more surgeons got through by plane and glider.

"There is little glory in the Medical Corps. It is just hard, dirty work and mighty dangerous. The Red Cross seems to mean little to the enemy. He has bombed hospital tents from Anzio to Aachen. These medics are tough, but among the torn and dying men learn to be tender, too. They shun glory, but they have their pride. They are proud to have saved 97 out of every hundred wounded. They are proud that their miracle drugs and blood banks send from 50 to 80 back to fight again. They are proud because nobody in our whole vast Army, not even the foremost combat crew or the deadliest flying wing, has done a finer job than the Medical Corps."

Thousands of medical officers have left big practices to do their bit in the present world war. Each is interested only in doing those tasks assigned to him and giving the best possible type of service to the finest fighting forces the world has ever seen. They are not looking for glory, promotions, or anything other than to help the thousands of casualties in their program of rehabilitation.

Thousands of other physicians were found physically disqualified for active service and have endeavored to do their bit in caring for civilians, essential workers on the home front, to the best of their ability. In many communities physicians have been overworked and have died at the post, or have been compelled to slow down. In many instances they have been compelled to give up the work which has meant so much to them, yet they too are not complaining.

It is indeed most encouraging to the medical profession to see the fine tributes that are being paid through the press and elsewhere for their constant desire to carry on during warfare both at the front, in government hospitals, and in civilian practice. Likewise when the ever-increasing rehabilitation program is in operation in all states, counties and municipalities, the medical profession again will assume additional responsibilities as another "must".

CARE OF PREMATURE INFANTS

A dispassionate statement of actual results can emphasize more strongly the need for specialized management of prematures than any conceivable generalized statement of principle. Studying first an over-all picture of infant mortality in the United States as revealed by the most recently available studies, we find that 64 percent of the total 113,492 infant deaths in 1942 occurred before the age of one month, and almost half of those, or 31 percent of the total infant mortality, occurred during the first 24 hours of life. Of those babies which did not survive the first 24 hours, 99.6 percent were considered to have expired because of prematurity. In Illinois, the State taken as a whole, of the total of 5075 neonatal deaths in 1942, 35.5 percent were attributed to prematurity. However, in studying prematures as a special group, of 1303 admitted during a single twelve-month period to twenty of the large hospitals in the State of Illinois, only 25.4 percent were reported as neonatal deaths, and of the 135 prematures admitted during 1943 to the premature station at St. Francis Hospital in Peoria, only 14 percent failed to survive.

All of this statistical analysis emphasizes only one fact — the premature infant is a physical entity of a highly specialized type, and requires for survival medical and nursing management of an equally specialized degree. The premature cardio-respiratory control centers in the medulla

are extremely labile and highly sensitive to external stimuli. The premature heart and lungs in the viable infant respond violently to many stimuli which are not unfavorable to the normal newborn. The gastrointestinal tract is small and primitive to a degree which makes the feeding of a premature an exacting science and a painstaking procedure. The premature infant requires (1) an environment which is constant in temperature, humidity, and O_2 — CO_2 content; (2) feeding which includes breast milk, formulas, subcutaneous fluids, and intramuscular and intravenous blood as indicated; (3) specialized feeding by specially trained nursing personnel, using bottles, eye-droppers, and gavage technics as necessary; (4) specialized skin care by the medical and nursing staff; (5) specific emphasis and treatment by the physician of the particular types of pathology found in the premature infant; and finally, but of vital importance, (6) adequate preparation of the home and post-discharge followup of the infant's progress by the visiting nurse.

The Illinois State Department of Public Health, with the approval of the local medical societies involved, has initiated a program for the care of prematures and has had in operation for more than two years one premature station at St. Francis Hospital in Peoria and one at St. John's Hospital in Springfield, each center serving an area of 40 to 60 miles in radius, the personnel cooperating with physicians and other hospitals in the area. These centers are located at strategic points which have a high birth rate, a dense population, easily accessible highly standardize hospitals, abundant nursing personnel, and available medical attendants.

The program provides for nursing care of premature infants who weigh less than 5 pounds 8 ounces, and sets up standards of physical equipment, housing, specialized nursing, and transportation. Premature infants born in the hospital, or admitted from homes or other hospitals per incubator ambulance, are brought to the premature nursery accompanied by a nurse trained in the care of prematures. They are given 24-hour nursing service by specially trained nursing personnel. Infants admitted to the premature center remain under this specialized care until their weight level has reached 5 pounds 10 ounces or more, and are discharged only if and when their general condition is considered good and their home environment found satisfactory. Prematures whose physicians find the parents financially unable to defray the cost of hospitalization are cared for at the expense of the State. The attending physician may care for the patient himself, or if he desires, may avail himself of the service of a consulting pediatrician provided by the State Department of Public Health. Because of the successful operation of the two existing centers, the Illinois State Department of Public Health proposes the establishment and operation of other similar centers as the opportunity arises, with the approval and cooperation of the local county medical societies. It is proposed that the infant, while hospitalized, shall remain under the complete supervision of his attending physician or the designated pediatrician in charge.

In the last two decades, infant mortality rates have been dropping consistently throughout the United States, and in Illinois to an especially exemplary degree; but the lag between the drop in mortality under the age of one year and the mortality under the age of 24 hours (of which 99.6 percent is due to prematurity) is too apparent and too inconsistent for complacent acceptance. Results on the saving of life in premature stations now functioning make it obvious that a great need exists for more centers of this type, and that the opinion is well-founded that a significant drop in the infant death rate under 24 hours of age may be expected from the functioning of a sufficient number of premature stations throughout the State of Illinois.

GOOD LUCK, PLINY!

Dr. Pliny R. Blodgett, for twenty-two years a member of the Council of the Chicago Medical Society, attended a meeting of the Council at the Palmer House, Chicago, on January 9, 1945, and gave a farewell address. He had been commissioned a Lieutenant Commander in the Navy Medical Corps on December 28, 1944. Doctor Blodgett, whose home is at 1602 Otto Boulevard, Chicago Heights, was well known to most members of the Illinois State Medical Society as he has been very active over a long period of years as a member of our House of Delegates, and a member of several important

committees, and chairman of some of them during recent years.

"Pliny" as he was known to his hundreds of friends, first saw military service in the Army Medical Corps on the Mexican Border under General Pershing in 1916. Then he served over seas as a Captain in the Medical Corps during World War I, having participated in many engagements and having received several decorations.

Doctor Blodgett insisted that he must go into service again during this war, to replace his only son, 1st Lieutenant P. R. Blodgett, Jr., who served in the Army Air Forces, and was killed in an accident overseas last May.

We are informed that Doctor Blodgett is now stationed at Navy Pier, but has requested overseas duty as quickly as possible.

It is quite obvious that the many friends of Doctor Blodgett will be thinking of him, and he may be assured that the best wishes of all are his in his present or future assignments. We know that whatever these assignments may be, Pliny will do his part, and he will be welcomed home gladly when the war is over and he returns once more to his civilian practice.

PENICILLIN FOR PERITONITIS

Investigations with animals indicate that penicillin should prove to be effective as an adjunct to surgery in the treatment of battle wounds of the abdomen and appendicitis and its complications, such as peritonitis, Lieutenant Commanders G. B. Fauley and T. L. Duggan, U.S.N.R.; Lieutenant (jg) R. T. Stormont, U.S.N.R., and Lieutenant C. C. Pfeiffer, U.S.N.R., report in *The Journal of the American Medical Association* for December 30.

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago 2, Illinois enclosing label from a copy showing your old address. Changes received after the 1st of the month will not go into effect until the following month.

AMERICAN COLLEGE OF SURGEONS ANNOUNCES 1944 APPROVED LIST OF HOSPITALS

The American College of Surgeons announces that 3,152 hospitals in the United States and Canada are included in the 1944 Approved List. The list is published in the annual Approval Number of the College Bulletin issued December 31.

A total of 3,911 hospitals were included in the 1944 survey and the approved hospitals represent 80.6 per cent. The first annual survey in 1918 included 692 hospitals of 100 beds or over of which only 89 or 12.8 per cent merited approval. Hospitals of 25 beds and over are covered in the current surveys.

A total of 2,342 hospitals of 100 beds and over were on the 1944 survey list, and 2,182 or 93.1 per cent were approved. A total of 1,119 hospitals of 50 to 99 bed capacity were under survey of which 789 or 70.3 per cent were approved. A total of 450 hospitals of 25 to 49 bed capacity were under survey of which 181 or 40.2 per cent were approved.

On December 31 of each year the ratings of hospitals under survey by the American College of Surgeons automatically terminate. The status of every hospital based upon all data collected from the current survey is reconsidered each year.

Research in clinical tuberculosis has never been more sorely needed than now if the new drugs are to be of benefit in combating the anticipated plague of tuberculosis which is now beginning in Europe. Such research may be truly classified as "war medicine" since tuberculosis may be regarded as a specific pestilence of war along with malaria, typhus and dysentery. When the final summation of the toll of this war is made, it may be revealed that tuberculosis ranks with bombs and bullets in the destruction and crippling of civilian populations. H. C. Hinshaw, M.D. and W. H. Feldman, M.D., Amer. Rev. Tbc., Sept. 1944.

Cases of tuberculosis of the lungs due to bovine tubercle bacilli are indistinguishable clinically, radiologically or by postmortem examination from cases due to the human tubercle bacilli. Human and bovine tubercle bacilli are equally pathogenic for man. This agrees with the opinion long held by American pathologists, many of whom believe that the bovine bacillus is often more highly virulent for man than the average human strain. Roy. Comm. on Tb. of Gr. Br., A. Stanley Griffith, M.D., Chrm. 1944.

Medical Economics

The Medical Economics Committee — Chauncey C. Maher, Chmn., 6 North Michigan Avenue, Chicago, Edwin S. Hamilton, V. Thomas Austin, Emmet B. Bay, Jay McDonald Milligan, Jacob M. Mora, George Halperin, Marie Wessels, Thomas C. Browning, Roland R. Cross, Milton E. Bitter, Edwin F. Hirsch, Ford Hick, Lt. Col. MC, William J. Bryan, John R. Vonachen.

THE BEVERIDGE REPORT

The public press for two years has discussed the Beveridge Report with reference to its influence on the United States Congress and on those urging certain sweeping social reforms. This British report is the source of material contained in the Wagner-Murray-Dingell Bill, introduced in the 78th Congress and recently reintroduced in the 79th Congress as the Dingell Bill. The Medical Economics Committee believes a review of this English document should be presented to the readers of the Journal.

On June 10, 1941, it was announced in the House of Commons that Sir William Beveridge was chairman of a committee to conduct a comprehensive survey "of existing schemes of social insurance and allied services . . ." The personnel of the committee was selected from the ministries and bureaus of Labor, Home Office, Pensions, Government Actuary, Health, Treasury, Reconstruction, Customs and Excise, and Industrial Assurance. On November 20, 1942 the report was issued by the chairman, and copyrighted in December of that year by the MacMillan Company. The publishers comment on the inside cover page has interest. "THE IMPORTANCE of this report as a basis for the consideration of post war problems can hardly be over emphasized. Here, after eighteen months of intensive study by a distinguished economist and government planner is presented the first well-conceived, completely thought out preview of the social — and other — problems which must be solved throughout the world in shaping things to come."

The report under the paragraph entitled "Three Guiding Principles of Recommendations" states, "The first principle is that any proposals for the world future, while they should use to the full the references gathered in the past should not be restricted by consideration of sectional interests established in obtaining that experience. A revolutionary moment in the world's history is a time for revolutions, not for patching. The second principle is that organization of social insurance should be treated as one part only of a comprehensive policy of social progress. — Want is one only of five giants — others are Disease, Ignorance, Squalor and Idleness." The third principle is "that social security must be achieved by cooperation between the State and the individual."

The plan is summarized by the author as a scheme of social insurance against interruption and destruction of earning power and for special expenditure arising at birth, marriage and death. The scheme embodies "six fundamental principles: flat rate of subsistence benefit; flat rate of contribution; unification of administrative responsibility, adequacy of benefit; comprehensiveness; and classification." "The aim — is to make want under any circumstances unnecessary."

The population is divided into six groups: "Employees, others gainfully employed (including employers), housewives, others of gainful occupation not employed, below working age and retired above working age."

Substantially, the plan involves the collection of "contributions" to a "Social Insurance Fund" from employees, employers, and others, and the National Exchequer. The administration is to

be vested in a Ministry of Social Security, to be established. The ministry is to disburse from the fund, children's allowances (up to age 16), unemployment benefits, disability benefits (through injury or illness), retirement pensions, widows' pensions, and funds for medical treatment. Special benefits are to be allowed for marriage, births, and deaths.

The "provisional contributions" estimated in the report were approximately 0.86c (4 shillings 3 pence) per week for a single employed man (over 21) and 0.65c (3 shillings 3 pence) per week from his employer. Contributions were less for younger employees, and employed women. It was estimated by the committee that the "net addition to the burden on the National Exchequer in the first year, as compared with expenditure under the existing arrangements would be 86,000,000 lbs.

The administration is to be undertaken by a "Ministry of Social Security under a cabinet minister," who will establish a network of regional offices and these offices will select and train staffs "with special regard to their function of serving the public and in understanding the human problems with which they will be concerned."

The "provisional rates of benefit" are listed as follows:

Unemployment:	*Weekly*:
Man with non-working wife	$8.08
Man with working wife	$4.80
Single man or woman (over 21)	$4.80
Single man or woman (18-20)	$4.04
Boys and girls (16-17)	$3.03
Retirement Pension:	*Weekly*
Man with unemployed wife	$8.08
Single man or woman	$4.80
Maternity (13 weeks)	$7.27
(With Special Grant of $16.16)	
Widows Benefit (13 weeks)	$7.27
Childrens (Dependent)	$1.62
Industrial Pension	$8.08
(According to weekly earnings up to $12.12)	
Special Benefits	
Marriage benefit	$40.40
Funeral	
Adults	$80.80
10-12 yrs.	$60.60
3- 9 yrs.	$40.40
Under 3 yrs.	$24.24

HEALTH AND REHABILITATION SERVICE

The National Health Service "will ensure that for every citizen there is available whatever medical service he requires, in whatever form he requires it, domiciliary or institutional, general, specialist, or consultant, and will ensure also the provision of dental, ophthalmic and surgical appliances, nursing and midwifery and rehabilitation after accidents." The cost would be defrayed by "a proportion of the receipts of the social insurance fund. The administration of this money would rest with the health departments." The details of medical activities, such as hospital, clinic and dispensary organization, were not included in the report. The salaries of the physicians, nurses, administrators were to be worked out by the Health Department.

The Beveridge Report has received considerable favorable comment in the public press of England. In the United States, the MacMillan Company has printed about 50,000 copies of the Report and in the Chicago area over 5,000 copies were distributed up to December, 1944. The press of this country has treated the Report in many instances somewhat facetiously, labeling it — "The Womb to Tomb Plan", and, in reality it is not an impressive or profound document. Its presentation to the public as an original, finished plan is not correct. The social reforms which Sir William Beveridge offered are an integral part of National Fascism of our enemy, Germany. Our present ally, Russia, whose political philosophy differs most from our own democratic ideals has had these same ideas in operation for a number of years.

The plan implies a material decrease in the activities of the private insurance companies, and possibly their extinction. The new government bureau would become the collector, administrator and disbursing agent instead of the present fraternal, mutual or old line insurance companies.

Medically, the report proposes complete medical care for every individual under any or all circumstance. It does not indicate, however, that acceptance of that medical care is *compulsory*, and implies that private medical prac-

(*Continued on page* 98)

Correspondence

SPRING REFRESHER COURSE

The 5th semi-annual refresher course in laryngology, rhinology and otology will be conducted by the University of Illinois, College of Medicine at the College in Chicago, March 26 to 31 inclusive, 1945. While the course will be largely didactic, some clinical instruction will be included. This course is intended primarily for ear, nose and throat specialists. As the registration is limited to thirty, applications will be considered in the order in which they are received. The fee is $50.00. When writing for application please give details concerning school and year of graduation, and past training and experience.

Address — Dr. A. R. Hollender, Chairman, Refresher Course Committee, Department of Otolaryngology, University of Illinois, College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

ILLINOIS INITIATES, AMERICAN COLLEGE OF SURGEONS

The following physicians from Illinois were accepted into fellowship in the American College of Surgeons during 1944:

Burton R. Bancroft	Oak Park
John G. Bellows	Chicago
Ernest D. Bloomenthal	Chicago
Hubert B. Bradburn	Lincoln
Arthur R. Brandenberger	Danville
Paul A. Campbell	Chicago
Dwight E. Clark	Chicago
Harlan S. Cox	Danville
John M. Dorsey	Chicago
Howard E. Dorton	Chicago
Lester R. Dragstedt	Chicago
Reuben B. Gaines	Chicago
Richard K. Gilchrist	Chicago
Carl Greenstein	Urbana
Harry G. Hardt, Jr.	Chicago
Richard E. Heller	Chicago
Allan B. Hirschtick	Chicago
Samuel I. Kaufman	Chicago
Frederick J. Lesemann, Jr.	Chicago
Arthur B. Levan	Chicago
Martin C. Lindman	Rockford
Wallace D. Mackenzie	Evanston
Robert T. McElvenny	Chicago
George T. Murphy	Chicago
Harry A. Oberhelman	Chicago
Eugene B. Perry	Chicago
William Rosenberg	Chicago
William G. Rurik	Chicago
John C. Scully	Chicago
Charles E. Shannon	Chicago
Edgar A. Thacker	Urbana
Malcolm C. Todd	Cairo
Isadore C. Udesky	Chicago
John Van Prohaska	Chicago
Charles A. Waltman	Chicago
Lorin D. Whittaker	Peoria

In China disease is much more prevalent than it is here. Cholera is reported every year; there were 100,000 cases in 1932, 65,000 cases in 1942, 17,000 cases in 1943. Bubonic plague had approximately 6,000 cases in 1942. It is estimated that there are about 6,000,000 cases of dysentery annually, 90 per cent bacillary, 10 per cent amebic. The estimated number of cases per annum of typhoid fever is 700,000; of smallpox, 500,000; of diphtheria, 360,000; of scarlet fever, 180,000. Epidemic meningitis is estimated at 100,000 cases per annum; malaria, 21,000,000 cases per annum; schistosomiasis, 10,000,000 cases per annum. Active tuberculosis is estimated at 36,000,000 cases, 8 per cent of the population. Under-nutrition is so widespread that no figures of any kind are available. Raymond B. Fosdick, L.L.D., Amer. Jour. P. H., Nov. 1944.

★ **BUY AN EXTRA BOND** ★

Medicine's Role in the War Effort

MR. PAUL V. McNUTT PRAISES CIVILIAN DOCTORS

Urging conservation of the nation's diminished ranks of civilian doctors, Mr. Paul V. McNutt, chairman of the War Manpower Commission, recently praised the home front medical corps for "a gallant contribution to the war effort at great sacrifice." The War Manpower Commission Procurement and Assignment Service has charge of the assignment of professional men for the war period.

Pointing out that about 1,500 physicians had died on the home front from Jan. 1, 1944 to July 1, Mr. McNutt said that "all over the nation our doctors are sacrificing themselves to help us do a magnificent job. It is necessary that all of us cooperate with the medical profession in order to keep to a minimum the demands of our physicians." Mr. McNutt also said that civilians could cooperate by observing ordinary health rules and diets, calling a physician only when necessary, going to the physician's office when possible rather than calling him to the home, and placing calls early so that physicians may systematize their work and save their own strength.

Procurement and Assigment Service officials said that, when there is real need for additional doctors in a community, WMC tries to fill the need through relocation of physicians and with those returning from service. About 200 physicians are now back in their communities from the Army, which recently reported to WMC that it is no longer recruiting doctors. About 3,000 are still needed by the Navy and a smaller number for the Public Health Service, the Federal Security Agency and the Veterans Administration.

☆ ☆

"LUXURY" PRIVATE NURSING DEMANDS CRITICIZED

Hospital officials called together by the Nursing Council for War Services have criticized the continued demand for "luxury" private duty nursing, with the Army and Navy in urgent need of 14,000 additional nurses. A public meeting planned by the Graduate Nurses' Association for January will emphasize the drastic shortage of nurses for the armed forces and at the same time honor nurses with overseas service. The need for nurses is so acute that Congress may be asked to investigate the shortage, which has resulted in eleven general hospitals being sent abroad during December with no nurses in their personnel. Congressmen back from overseas were indignant that sufficient nurses are not available to care for the wounded. They have made the charges (1) that civilian hospitals are "hoarding" nurses and (2) that superintendents and other hospital officials are threatening nurses that if they join the armed forces they will not be allowed to rejoin the hospital on their return to civilian life.

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WAC RECRUITMENT TO CONTINUE IN 1945

The War Department recently announced that the army will continue to recruit for the Women's Army Corps in 1945. Because of the increasingly high casualty lists and the return of thousands of sick and wounded soldiers to the United States, together with a critical shortage of army nurses, there is an urgent continuing need for several thousand medical and surgical technicians in army hospitals. This need is acute and must be filled. Women enlisted in the WAC for this duty will receive specialized training designed to fit them as enlisted technicians and are assured duty in army hospital wards aiding in the care of sick, injured and wounded soldiers. Other enlisted technicians needed by the Army Medical Department include pharmacists, laboratory technicians, dental technicians and psychiatric social workers.

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TUBERCULOSIS IN THE ARMY

The incidence of tuberculosis, as reflected by the annual hospital admission rate, is only one tenth as high in the army now as it was in the first world war. The principal factor in the decrease in the army rate is the screening process which is in operation to exclude men with active or potentially active tuberculosis before they are inducted into the Army, Col. E. R. Long, chief consultant on tuberculosis for the Surgeon General's Office, pointed out. Another reason is the fact that among the civilian population tuberculosis is only one third as prevalent now as it was during the first world war.

ARMY AWARDS

Six officers of the medical detachment of an armored infantry regiment have received awards from the War Department for meritorious and gallant service on the field of battle during the campaigns of the Second Armored Division in Germany.

Winner of the Bronze Star Medal was Capt. Harry M. Segenreich, Chicago, who was graduated from the University of Illinois College of Medicine, Chicago, in 1937 and entered the service Feb. 11, 1941.

Capt. Garland N. Adamson, surgeon of a tank battalion and formerly of Chicago, was recently awarded the Bronze Star Medal "for heroic achievement in connection with military operations against an enemy of the United States in France, on Nov. 11, 1944. . . ." Dr. Adamson graduated from the Meharry Medical College, Nashville, in 1922 and entered the service in November 1942.

The Bronze Star Medal was recently awarded to Capt. Maurice Stamler, formerly of Beardstown, Ill. The citation read, "On Oct. 26, 1943 in Italy he moved through an enemy artillery concentration which was falling at the rate of eight rounds per minute to the aid of three seriously wounded infantrymen who had been struck by fragments of an enemy shell. Arriving some time before his ambulance he worked forty-five minutes with enemy shells bursting within 50 yards of him, administering aid to these wounded men. On arrival of the ambulance after the enemy artillery fire had ceased he directed their evacuation. His utter disregard for personal safety in this gallant action is deserving of the highest praise." Dr. Stamler graduated from the University of Illinois College of Medicine, Chicago, in 1934 and entered the service Aug. 21, 1941.

Capt. Mark M. Pomaranc, formerly of Chicago, was recently awarded the Bronze Star Medal. The citation read, "At Dutch New Guinea, from April 20 to June 12, 1944, he distinguished himself in the performance of his duty as a surgeon of a task force. His untiring efforts in administering to the sick and wounded at advance outposts was a direct contribution to the high combat efficiency of the patrols. Working under hardships in combating jungle diseases, handicapped by supply, evacuation and communication problems, he succeeded in maintaining a high standard of health and sanitation." Dr. Pomaranc graduated from Northwestern University Medical School, Chicago, in 1941 and entered the service Jan. 5, 1942.

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HOSPITALIZATION OF RETURNING CASUALTIES

Major Gen. Norman T. Kirk, Surgeon General of the Army, recently stated that the large increase in casualties returning from the battlefronts is making it impossible to send all patients to hospitals near their homes. General Kirk said that more than 30,000 sick and wounded were brought back to this country in December — an increase of 300 per cent over July. The three principal factors which guide the medical department in the selection of the hospital to which a soldier is sent are:

1. Where can the patient get the best treatment for his particular case?
2. What hospitals offering such specialized services have the facilities to care for additional cases?
3. What suitable and available hospital is located nearest to the soldier's home?

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REDUCTION IN THE MEDICAL CORPS OF THE ARMY

The Office of the Surgeon General recently announced that a moderate reduction in numbers of Army Medical Corps officers is necessary in order to remain within the present allotted ceilings. The need for medical corps officers in senior grades who are assigned principally to administrative duties is less acute than formerly. A board of officers recently appointed in the Office of the Surgeon General is carefully considering the physical and other qualifications of all medical corps officers of the various components of the Army and their essentiality to the war effort. As a result of this board's study, it is anticipated that a number of separations of the aforementioned group will occur in the near future. Regular medical corps officers will be accorded retirement privileges under the provisions of section II, Ar. 605-245, June 17, 1941, and Reserve, National Guard, and A. U. S. Medical Corps officers will be given the opportunity of returning to the practice of medicine in a civilian status by relief from active duty or discharge.

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COMBAT PAY FOR MEDICAL UNITS

Many will welcome assurance that the War Department is giving its attention to additional recognition for men of the Medical Corps serving with combat units. General Eisenhower has recommended to visiting congressmen, says a report from France, that he be given extra combat pay comparable to that of the combat unit he serves.

Secretary Stimson indicates that the case of the man of the Medical Corps presents a separate problem because of his non-combat status under the Geneva Convention, but separate insignia and a separate pay system would seem to clear that hurdle. The Secretary noted also that more Medical Corps men receive technical ratings, thus boosting average pay, but that doesn't help the medic who hasn't his rating or compensate the corps generally when it leaves a safe spot for the shooting front.

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RECRUITING STUDENT PHYSICAL THERAPISTS

Recruiting of student physical therapists has been started by the war department. After an apprenticeship in army hospitals qualified graduates will be commissioned as second lieutenants in the Medical Department. Applicants must be under 38 years of age,

must be college graduates with a major in physical education or biologic science, must meet citizenship and physical requirements and must have no dependent children under 14 years of age. Such applicants will start at a salary of $1,440 a year; on satisfactory completion of six months training in army general hospitals, students become apprentice physical therapy aides at a yearly salary of $1,620. Applicants who have had a similar course in civilian institutions will be eligible for this position. On satisfactory completion of their apprenticeship they will be commissioned as second lieutenants. They may be placed on duty overseas or in this country.

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COL. ALBERT E. McEVERS COMMANDING OFFICER AT BILLINGS GENERAL HOSPITAL

Col. Albert E. McEvers, formerly commanding officer of the ASF Oakland Regional hospital, was recently appointed commanding officer of Billings General Hospital, Fort Benjamin Harrison, Indiana. An army surgeon veteran of three wars, Dr. McEvers first saw action on the Mexican border in 1916 and served as a surgeon during the major offensive at Aisne-Marne, St. Mihiel, the Neuse-Argonne, Champagne and Meuse-Champagne during the first world war. After returning to the United States he was appointed major in the Officers' Reserve Corps and practiced in Chicago and Los Angeles until the outbreak of the present war. He received his full rank of colonel in the medical reserve in 1934. In September 1939 he accepted reappointment to this rank.

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THE CONTROL OF DENGUE ON SAIPAN

Shortly after the invasion of Saipan an epidemic of dengue fever occurred among the troops employed in the operation. The rapid increase in the incidence of the disease necessitated prompt control measures. The island commander, on recommendation of the surgeon, designated each unit commander as responsible for the elimination of mosquito breeding within his assigned area and its immediate vicinity. Under the direct supervision of the surgeon a sanitary company undertook mosquito survey control work in the more thickly populated areas.

The portions of the island inhabited by our military forces were mapped and segmented as to areas of importance. Tremendous quantities of debris were removed and vast areas were cleared. Water pools were oiled, water containers were emptied or otherwise protected from mosquito breeding and tree holes were filled with dirt. All measures for mosquito protection were enforced to the utmost. A solution of DDT was used extensively as an insecticidal spray disseminated by mechanical power sprayers and by airplane. All tents, living quarters and mosquito bars over a wide area were sprayed for a residual effect. Area spraying by aircraft was thoroughly exploited over wide territories. The effects of these procedures were dramatic. The reduction in the larval and adult mosquito population and in the flying population was enormous. Within two weeks of the onset of the control program daily admission of new cases of dengue fell more than 80 per cent, and progressive improvement has occurred since that time.

This experience serves to reemphasize the effectiveness of command action in disease prevention when promptly utilized and efficiently employed under Medical Department recommendations. It further attests the value of DDT as an adjunct to other sanitary measures in the control of insect borne diseases.

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NEW POSITIONS OPEN FOR EXPERT LIMB FITTERS

Army amputation centers in this country are in immediate need of expert limb fitters. Civilians with the necessary technical background in manufacturing, adapting, repairing or fitting orthopedic appliances are being urged by the Army Medical Department to qualify for the newly created positions of "orthopedic technical advisers." These are Civil Service positions.

A technical adviser grade P-4 receives a yearly salary of $4,428 for a forty-eight hour week. He serves as consultant and adviser to the orthopedic surgeon on the design and construction of artificial limbs and counsels individual amputees on their use. A technical adviser grade P-3 receives a yearly salary of $3,823 for a forty-eight hour week and acts as assistant, performing specific research, designing and fitting limbs and training enlisted shop personnel.

Orthopedic shops are located at the six Army general hospitals which are amputation centers: Bushnell General Hospital, Brigham City, Utah; Thomas M. England General Hospital, Atlantic City, N. J.; Percy Jones General Hospital, Battle Creek, Mich.; Lawson General Hospital, Atlanta, Ga.; McCloskey General Hospital, Temple, Texas, and Walter Reed General Hospital, Washington, D. C.

Inquiries should be directed to the Civil Service Commission or the Office of the Surgeon General, Washington 25, D. C.

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NUTRITION LABORATORY NOW IN CHICAGO

The Medical Nutrition Laboratory, formerly part of the Army Medical School, Army Medical Center, Washington, D. C., has moved to 1849 West Pershing Road, Chicago 9. Capt. George Berryman, Sn. C., is the acting commanding officer, and Capt. Cyrus French, Sn. C., is executive officer. A new laboratory is being constructed, and the scope of the work will be increased. In addition to training nutrition officers there will be physiologic, chemical and bacteriologic studies made of nutritional problems pertaining to army personnel.



Original Articles

THE PRESENT DAY STATUS OF VENEREAL DISEASE CONTROL AND TREATMENT

A. J. Aselmeyer, Senior Surgeon
U. S. Public Health Service

Venereal disease control today is everybody's business. We are engaged in an "all out war." Our number one need as a nation is manpower. We must keep industrial production at its maximum to win over the Axis. We must prevent loss of time because of venereal disease.

In Illinois last year syphilis and gonorrhea comprised practically a third of all the illnesses reported to the Illinois Department of Public Health. Nationally, examination of the first 2,000,000 selectees revealed that 47.7 men out of every 1,000 had serologic evidence of syphilis. On the basis of this data and other studies, the total syphilis prevalence in the United States in 1941 was estimated to be well over 3,000,000. The chances of the average American citizen for acquiring syphilis by the age of 50, at the rates existing in 1940 and 1941, was 1 in 15. The general belief held by most authorities is that the gonorrhea attack rate is at least three times higher than the syphilis attack rate.

Syphilis became epidemic in western Europe about 1493. The next 400 years of medical research produced accurate descriptions of the course of the disease, and mercury and guiacum for the treatment of external symptoms, but nothing more basic. In 1900 syphilis could not be accurately diagnosed and was still listed among the incurable diseases.

The first decade of the 20th century brought forth momentous discoveries. In 1903 Metchnokoff and Roux produced syphilis in apes by inoculation. In 1905 after long years of searching Shaudinn and Hoffman discovered the syphilis organism known as the spirocheta pallidum. In 1907 Wassermann developed a complement fixation test. Then in 1910 Paul Erhlich discovered salvarsan, and arsenic compound which would kill the spirochete and not harm the patient when injected into the blood stream. Thus in the short span of ten years we were given the means of diagnosis and a new method of treatment. Erhlich thought that one dose would cure syphilis. This early belief was soon proved untrue. Then syphilologists throughout the world developed empirically their own systems of treatment, with varying and unpredictable results.

In the years since those epic discoveries the sero-diagnostic test has been improved and made an accurate instrument of diagnosis. We can now find syphilis when it is hidden. The cooperative clinical group study of 75,000 case records, under the sponsorship of the U. S. Public Health Service, has enabled us to predict with considerable accuracy the results of specific amounts and types of treatment in early and latent syphilis. The system of treatment for early syphilis announced by the cooperative clinical group in 1935 was the most effective which had yet been devised, and if completed one of the most effective treatments known for any disease so serious as syphilis.

Presented before the Joint Session of the Sections on Medicine, Surgery, Public Health and Hygiene, Radiology, Pediatrics, Obstetrics and Gynecology, and Pathology, 104th Annual Meeting of the Illinois State Medical Society, May 17, 1944.

This schedule requires twenty doses of an arsenical and a like number of heavy metal — one injection each week for forty weeks to control infectious relapse. Thirty doses of an arsenical and forty doses of heavy metal, one injection each week for seventy weeks, is the minimum treatment required to attain permanent satisfactory results.

Painstaking epidemiological work has demonstrated that syphilis occurs in small epidemics.

The disease is spread by intimate contact of a well person with one who had recently acquired the infection. These epidemics can be traced, the source ascertained and further spread of the disease prevented by placing the infected persons under treatment.

We have known the cause of gonorrhea since Neisser identified the organism in 1879. We have had no effective treatment suitable for general application until the advent of the sulfa drugs in 1937. Data accumulated during the past few years led us to believe that the sulfonamides would cure 80 to 90% of uncomplicated cases of gonorrhea in a period of five to ten days. More recent experience indicates that the percentage cure is somewhat smaller, probably about 60 to 65% under ordinary treatment conditions.

We know that gonorrhea like syphilis is spread by intimate personal contact. Discovery of an effective treatment has given us the means of controlling this malady also. Our medical problem therefore, based on established scientific data, resolves itself into finding new cases and treating them.

In every field of endeavor there is always a lag between the acquisition of knowledge and its practical application. This lag has been greater in syphilis than in other ailments. The association of syphilis with sin, which until recent years banned public mention of the word, made it difficult for health officers to deal with the problem.

The blueprint for the present program was drawn at a special conference held in Washington in December, 1936, under the auspices of the U.S. Public Health Service. After this conference articles on venereal disease appeared in newspapers and magazines. Radio networks permitted speakers to use the word "syphilis" in broadcasts. Civic minded groups throughout the country endorsed the program.

In 1938 the Congress enacted legislation making Federal funds for venereal disease control available to the States. Each of the 48 States immediately began to develop a plan based on the recommendations of the Advisory Committee, which embodied the best features of successful control efforts in other countries.

Briefly, the objective of the venereal disease control program is to provide facilities, services and policies adequate to meet the problem. Federal funds are allotted to the States to supplement local resources. The responsibility for developing and maintaining adequate control measures rests with State and local health organizations. Federal participation consists mostly of technical and administrative guidance. The Venereal Disease Division of the Public Health Service also conducts laboratory and field research, training and demonstration programs, provides advisory and consultative services, and lends specially trained physicians, nurses and other workers to the States to meet acute problems growing out of the war.

In assuming the responsibility for dealing with the venereal disease problem, health officers are merely following the precept laid down by Dr. J. Marion Sims in his presidential address before the meeting of the American Medical Association in 1876 ". . . . I would simply include syphilis in the great family of contagious or communicable diseases and make it subject to the same laws and regulations that we already possess for their management. . . . "

Great progress has been made since the passage of the National Venereal Disease Control Act. The venereal disease clinics in the United States increased from 1,122 in 1938 to 3,800 in 1943. In 1938, 3,598,000 blood tests for syphilis were performed; in 1943 that number had increased to 30,900,000. In 1939 the monthly average of syphilis clinic patients was 229,000; now at least 400,000 are being treated each month. The number of arsenical doses for the treatment of syphilis distributed by State Health Departments increased from 2,800,000 in 1938 to 10,800.000 in 1943. The number of doses of sulfa drugs distributed increased from 3,500,000 doses in 1939 to 23,100,000 in 1943.

War breaks up families, tears people loose from their usual surroundings and normal ways of life, weakens normal restraints among young

people, and thus creates conditions which favor promiscuity and the spread of venereal disease. To make the situation even more complex, the ever increasing shortage of professional personnel overshadows all other difficulties in the successful application of venereal disease control measures.

Health officials, (Federal, State and local) private physicians, the Armed Services, law enforcement officials, and voluntary agencies have combined forces to control the spread of venereal disease under difficult war time conditions.

The Social Protection Division of the Federal Security Agency's Office of Community War Services, has been very helpful in the repression of commercialized prostitution. More than 660 red light districts have been closed. With the help of the American Bar Association this agency has obtained interpretations of health laws and regulations which have been very helpful to health officials in the exercise of quarantine powers.

The American Social Hygiene Association has made confidential investigations of prostitution activities in more than 500 communities during the past year. In fact, this association, which represents voluntary organizations interested in venereal disease control, has devoted its entire budget to the war program.

The F. B. I. and local police officials have shown a keen interest in the venereal disease problem and are willing to take action where law violations are involved.

The Alcohol Beverage Commission and a majority of the tavern keepers are aiding the control program by refusing to permit customers to use their premises for meeting prospective patrons.

The Army and Navy are fulfilling their obligation, under the 8 Point Agreement, by adopting a program for the repression of prostitution and reporting venereal disease contacts to proper health officials.

To conserve the time of depleted professional staffs, lay follow-up workers are being employed. Loss of time and effort in searching for old cases which are no longer infectious and for individuals who are already under treatment is being prevented through the use of central registries.

All of us engaged in the field of public health know that in the final analysis the control of venereal disease is in the hands of the private physicians. Public agencies can provide funds, develop plans and procedures and set up administrative machinery, but the physician sees the patient. He must make the diagnosis and administer treatment. To aid him laboratory services, drugs and follow-up services are provided.

Physicians continue to staff venereal disease clinics even though they hardly have time to care for their private patients. More and more physicians are realizing the advantage of reporting cases promptly. In Illinois the syphilis case reports for 1943 reached an all time annual high figure of 28,680 and the gonorrhea case reports soared to the State's record breaking peak of 21,580. Prompt reporting of a new case secures for the physician free drugs for the treatment of his patient, and gives the health officer information necessary to plan an effective program.

In Springfield and Chicago rather complete files are maintained on all persons reported as having or suspected of having venereal disease. A new patient coming to a physician may be a contact reported by some other treatment source. If you have reported this case and the health department knows that the suspect is under your care, no follow-up visit will be made. Thus reporting the case helps you in your patient relationship and obviates the necessity of an investigation to determine the status of this suspect.

The physician in private practice is assuredly doing his part in the war effort. He can greatly enhance his contribution to venereal disease control by a determination to see to it that every case of venereal disease which comes to his attention remains under treatment at least until he is no longer infectious. A few moments of precious time devoted to instructing each new patient will pay dividends. If the patient knows that continued treatment is necessary and that the physician has an obligation to the community to report cases which lapse while still infectious he will be more inclined to continue treatment.

A prompt report to the health officer if he does lapse prematurely is the signal which starts procedures to return the patient to his physician or

some other source of treatment. Such teamwork serves the best interests of the patient, the physician and the community.

The majority of venereal infections among military personnel and presumably also among civilian workers are now being acquired from promiscuous pickups. Such individuals have little social responsibility and are notoriously difficult to treat effectively in out-patient clinics. They move about frequently to follow some man in the armed services or to seek employment. They are difficult to locate and if found and placed under treatment frequently disappear before they have become non-infectious. In fact only about 25% of all patients with early syphilis admitted to clinic services remain under continuous treatment for sufficient time to receive 20 injections each of an arsenical and a heavy metal — the minimum necessary to insure against infectious relapse.

To cope with this problem the Federal government and a number of State health departments have developed a cooperative program to provide facilities in which persons with infectious venereal disease can be isolated and given intensive treatment. Professional staffs are furnished by the State or local health departments, or the U. S. Public Health Service. All other maintenance costs in most instances are financed from funds provided by the Federal Works Agency under the provisions of the Lanham Act. To date 35 State and 7 Federal rapid treatment centers have been established. 30 to 40 more are contemplated. Every effort is being made to operate these centers as hospitals for sick people and not jails for law violators.

The State Health Department of Illinois, in cooperation with the State Department of Public Welfare, has provided facilities for the isolation and treatment of persons with infectious venereal disease in five of the State mental hospitals. Patients who have venereal disease in a communicable stage may also be hospitalized in a number of private hospitals throughout the State upon authorization of the State venereal disease control officer.

In Chicago, the old Wesley Memorial Hospital is being operated as an intensive treatment center by the Chicago Board of Health. Patients with syphilis in a communicable stage and sulfa-resistant gonorrhea are promptly admitted to this center for intensive treatment.

The various treatment schemes employed for syphilis in the rapid treatment centers consist of (1) the five day slow intravenous drip, (2) the five day rapid intravenous drip, (3) the multiple injection, (4) the one day chemo-fever therapy, (5) the eight day chemo-fever therapy with vaccine and (6) more recently the so called "wonder drug" penicillin. The medical officer determines the type of treatment in each instance on the basis of physical findings, duration of infection, previous treatment, and the equipment and professional personnel available.

At the request of the various official and unofficial agencies concerned, the Public Health Service has undertaken to appraise the efficiency of the various methods of intensive therapy. Standardized medical reports on all cases treated are being submitted to the Venereal Disease Division of the Public Health Service. This program has not been in operation long enough to accumulate sufficient data to justify evaluation of the various treatment schemes employed.

To date the incomplete data on this large scale experience in the various intensive treatment methods and reports of various investigators throughout the country indicate that the one day and the five day treatment should be restricted to institutions where a well trained staff is available. The mortality rate is approximately one fatality for every 250 cases treated. When the period of time in which approximately the same amount of drug is given is lengthened, the safety factor increases proportionately. In the twelve-weeks treatment described by Doctor Harry Eagle the fatality rate is about one in 1500.

Early reports on the use of penicillin are very promising. Some investigators report as high as 99% cures in sulfa-resistant gonorrhea.

In early syphilis penicillin therapy produces prompt healing of surface lesions and a gradual decrease in positive serologic titre to the point where the test becomes negative. If further observations confirm the results thus far obtained, we may be witnessing a complete revolution in syphilis therapy.

The advantages of intensive treatment, from the standpoint of controlling infection, become readily apparent by comparing the number of

patients discharged from clinics as having received maximum benefit, with the number discharged from intensive treatment centers. During the period July 1 to December 31, 1943, 392 patients who had early syphilis were discharged from the clinics of 5 states in this area as having received maximum benefit of therapy. During the same period one intensive treatment center in this area placed 1,042 cases of early syphilis under observation after having received maximum therapy. It should be remembered also that the patient who is treated in the hospital is out of circulation and cannot spread infection during the period that treatment is being given.

The venereal disease control program is a cooperative effort geared to scientific research and methods of application which have been fruitful in actual practice. Current reports indicate that thus far our combined forces have prevented any considerable increase in venereal disease. We hope that continued teamwork, sustained effort, and the application of new methods and techniques will enable us to hold this position under difficult wartime conditions.

BIBLIOGRAPHY

Illinois Health Messenger; Vol. 16 No. 5; State of Illinois Department of Public Health.

Proceedings of Conference on Venereal Disease Control Work: Supplement No. 3 to Ven. Dis. Inf.: U. S. Govt. Printing Office, 1937.

Vonderlehr, R. A., et al: Recommendations for a Venereal Disease Control Program in State and Local Health Depts. J.A.M.A. 1941, 116: 2585-2589.

Vonderlehr, R. A., and Usilton, Lida J.: Syphilis Among Men of Draft Age in the U. S. J.A.M.A. 1942, 120: 1369-1372.

Vonderlehr, R. A., and Usilton, Lida J.: The Extent of the Syphilis Problem at the Beginning of World War II. N. Y. State J. Med., 1942, 43: 1825-1829.

Heller, J. R. Jr., The Venereal Disease Control Program in the United States: The Canadian Journal of Public Health, January, 1944.

Pelouze, P. S., Gonorrhea: The Epidemic We Face: Ven. Dis. Inf.; Vol. 25 No. 3, 1944.

Heller, J. R. Jr., et al: Venereal Diseases Panel Clinics, Vol. 2 No. 5, J. B. Lippincott Co., 1943.

The pre-placement examination of the worker opens what is probably the most fruitful opportunity to control the hazards of tuberculosis in industry. Here the suspected case is either thoroughly studied and carefully placed or he is haphazardly placed into a type of work in which latent tuberculosis lesions will flourish into full activity. Here, also, is the point of entry for the frankly tuberculous undetected by a hasty and incomplete examination, or here we find the protective wall which the physician interposes between the workers already employed and the tuberculous individual seeking admission among them. T. Lyle Hazlett, Indus. Med., Mar. 1944.

OBSERVATIONS ON THE DEVELOPMENT OF SILICOSIS

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Pneumoconiosis is a general term describing all forms of pulmonary changes due to all types of dust, and silicosis is a specific form of pneumoconiosis believed to be due to the specific action of silicon dioxide. The field of pneumoconiosis or even silicosis is too large to be covered in such a short period of time, and therefore I have limited my discussion to certain phases of silicosis which may give a clearer understanding of some of the problems of silicosis.

It is believed that essentially all of the lung changes due to silicon dioxide and called silicosis are demonstrable on an x-ray film. It is also believed that there are, undoubtedly, minimal amounts of silica or silicon dioxide in many lungs which do not produce roentgen evidence of their presence because there has been very little, if any, change in the pulmonary structure. It is furthermore accepted that roentgen examination should always be considered as a consultation and that all of the physical factors must be taken into consideration in arriving at a conclusion. Pendergrass who gives an excellent discussion of this subject lists the following points as essential for the proper diagnosis of silicosis:

"1. A knowledge of the anatomy of the chest and some of the physiological manifestations of the various structures contained therein; an understanding of the histology of the lungs and of their lymphatic system.

"2. A thorough familiarity with roentgenoscopic and roentgenographic appearance of the normal structures of the chest and their permissible variations.

"3. A clear perception of the pathology of pneumoconiosis and of lesions that give a somewhat similar roentgenographic appearance.

"4. Some knowledge of the history of the individual, especially the occupational record and familiarity with the physical signs in the particular patient.

"5. Some information concerning the industrial process that is responsible for the produc-

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tion of the dust. Dust counts at breathing levels and chemical analyses of the dust are exceedingly important when available.

"6. A comprehensive roentgen examination."

In order to produce lung changes the silica dust particles must reach the lung alevoli and pass into the interstitial tissues either with macrophages (dust cells) or by way of alveolar pores and be deposited in sufficient concentration and either through a physical-chemical reaction or some unknown process produce an abnormal amount of fibrous tissue. It is also accepted that only the smaller silica particles, particles of the order of 0.5-2.5 microns in size, are likely to produce lung damage. The protective mechanism of the respiratory tract, the main bronchus, and the bronchioles eliminates and excludes most of the larger particles of material, and the microscopic calibre or dimensions of the alveoli are such that only the smaller particles are physically possible to enter the alveoli. I am sure we have all been impressed with the wide variation of incidence of development of silicotic fibrosis in American industry. Few of us in the Illinois area have had any major experience with workers exposed to underground inhalation of silica. The physical factors surrounding underground operations in hard rock mines where silicon dioxide is produced free in the atmosphere are entirely different from surface operations in most of our plants. My experience has been confined almost exclusively to foundry workers. Our modern American foundries have taken many steps to improve the hygiene of foundries to reduce the accumulation of dust and to prevent the inhalation of this dust in the more serious concentrations. Some investigators believe that certain dusts have a modifying effect on the action of free silica in the lung. For instance, aluminum oxide may retard and alkaline soap powders may accelerate the usual reaction to free silica. It has been suggested that rapidly developing cases may be due to excessive exposures to silica and especially silica of unusual fineness.

There are two probable methods of action of the silicon dioxide: 1. A simple foreign body reaction and 2. a chemical reaction. Discussing a foreign body reaction first, I believe it hardly reasonable that fine dust particles of sufficiently small size should produce pulmonary changes by foreign body reaction with only one kind of dust or essentially only one kind of dust when the great majority of other types of dust of the same fineness produce no demonstrable pulmonary change. In the theory of chemical reaction of silicon dioxide, the silicon dioxide takes up moisture and forms a silica gel probably with the formation of silicic acid. This gel then becomes surrounded with a reaction which eventually becomes a dense nodule. The availability of moisture to combine with the silicon dioxide is of marked importance in producing a chemical reaction. I am sure we have all been impressed with the fact that of many workers under exactly the same conditions in the same plants in our surface operations in the midwest with years of exposure, only a percentage of individuals develop changes which could be definitely diagnosed as a nodular silicosis. We have noted many instances in which a degree of silicosis has been developed and then has remained stationary for many years without evidence of change of progression. We have also noted instances of definite nodular fibrosis with a presumable diagnosis of silicosis occurring without evidence of tuberculosis and without development or activation of tuberculosis at a later date. Pendergrass stated that the knowledge that a worker is exposed to dust released in the processing of a material containing free silicon dioxide is insufficient evidence in itself to justify the statement that the atmosphere at the breathing level contains harmful quantities of free silica dust. Briefly this means that all men who are exposed to small amounts of free silica dust do not necessarily develop demonstrable silicosis.

The factors concerned and the variations of the behavior of dust were ably tabulated by Pendergrass as follows:

"1. The composition of the air borne dust may differ from that of the parent material.

"2. The composition of the dust retained in the deeper portions of the lung may differ from that of the air borne dust.

"3. The amount of dust retained in the respiratory system and the relative amounts retained in the upper portion of the tract and that found in the alveoli vary with different dusts.

"4. The particle size of the alveoli dust differs from that of the air borne material.

"5. The flocculating properties of dust vary; this affects the retention in the respiratory tract, its penetration to the alveoli, and the behavior of phagocytes toward the dust.

"6. The rate of phagocytosis varies from one dust to another.

"7. The toxicity of silica is apparently reduced in the presence of certain other materials."

The protective influence of the respiratory system is of prime importance in considering the variations in the development of silicosis. The amount of dust reaching the alveoli and the common factors in the production of silicosis are varied as follows:

1. By the frequency and depth of breathing.

2. By the efficiency of the upper respiratory tract in eliminating or excluding fine dust particles referring especially to protective ciliary action.

3. By the physiology of the respiratory tract in the given individual particularly the nasal structures and whether or not the individual is a mouth breather.

Accepting the physiological-pathological development of silicotic nodules, once the silicon dioxide particle has reached the alveolus we must also accept the lymphatic distribution of the silica particles. It is still necessary to explain why silica dust produces a nodule while most other dusts do not. If it were on simply a foreign body particle basis, all dust particles should be expected to produce nodules, and it has been observed that this is not the case. The alternative then to be considered is a chemical reaction. This chemical reaction has been well studied by Denny, Irwin, and their associates.

If we should investigate all of the individual physiological and pathological variables, I believe that we would be forced to arrive at a theoretical explanation of why certain individuals develop silicosis in a given environment while others do not. Certainly it can be accepted that there is a great variation in the capacity of respiratory cilia in excluding dust particles. This capacity may be influenced by type of breathing in the individual, the amount of nasal cilia or their efficiency, and the efficiency of the bronchial and bronchiolar cilia. Any inflammatory change in the mucosa lining the bronchi or bronchioles would have a tendency to retard or limit this ciliary activity, thereby reducing its efficiency. These inflammatory changes may be (1) specific tuberculous infection with associated allergy, especially of the mucosa, (2) chronic bronchitis which is so frequently secondary to an upper respiratory infection where again there are two factors interfering with normal ciliary activity, (3) inhalation of tobacco smoke usually producing deeper inspiration than normal respiration, and (4) any cardiac condition producing generalized stasis, especially in the mucosal areas, which may also inhibit ciliary activity by producing edema and congestion of the mucosa.

There are many instances of extensive x-ray evidence of silicosis in which there is very little disability. Since occasionally marked disability presumably due to silicosis is observed in individuals who have very little x-ray evidence of the disease, it would seem wiser to use a classification other than numerical progression except in those cases where there is definite evidence of active infection complicating the silicosis. So-called second stage silicosis should not be understood to be a progressive development which will eventually become so-called third stage. There are many occasions when silicotic lesions do progress if harmful exposures to silica dust are continued or some other factor such as a super-imposed or a simultaneous infection becomes operative, while in other instances the lesion may remain unchanged for years and some of the lesions actually may get smaller. We have also seen nodular fibrosis in relatively young men remain stationary for years.

The lung changes of simple silicosis may be briefly and simply listed as (1) bronchial tree and vascular hilus markings showing some increase of prominence, but these linear increases of prominence are always subject to error and may be due to many other conditions; (2) the lung changes described as nodulation. Nodulation, however, may be subject to a great deal of variation. Nodules may be either (1) hard, dense, and of granular-like appearance, (2) discrete and small, or (3) soft, fuzzy, and less distinct. They are distributed throughout the lung and have little or no tendency to involve the apex and the zone immediately above the level of the diaphragm. The finding of conglomerate shadows in the upper lobes which on postmortem have shown no evidence of tu-

berculosis has always been difficult to understand and explain. Any asymmetry of massive or conglomerate shadows is believed to be due to acceleration of the silicotic fibrosis formation during the period of an acute infection. Cardiac changes are not at all definite and probably nonexistent by reason of pulmonary fibrosis.

Changes noted in silicosis with infection are (1) pleural thickening and pleural adhesions and (2) pulmonary changes characterized by parenchymal infiltration in addition to nodulation. Mottling is a term which was reserved by Pancoast for the differentiation between infection fibrosis and dust changes. Emphysema, especially at the level of the diaphragm, is believed to be a common finding, although in most instances of so-called emphysema I believe that there is a relative hyper-aeration rather than true emphysema. It has been admitted by most workers that the presence of active tuberculosis definitely enhances development of silicosis.

If one should take the experimental work of Barclay and of Denny, Irwin, and their associates together with the observed facts in regard to the occurrence and development of silicosis throughout industry and attempt to correlate all the findings on the basis of pulmonary moisture content being a dominant factor in retarding ciliary action or inhibiting the normal protective mechanisms of the lung and in the formation of silica gel, I believe that we approach a more rational explanation of why silicosis develops only in certain individuals and why it may develop to a certain degree and then remain stationary in so many other individuals without further progress. It is probable that all workmen with acute infections and chronic passive congestion should be limited or restricted in the extent of their exposure to silica dust. In many of the allergies which produce edema and congestion of the bronchial and bronchiolar mucosa, the question should be considered as to whether these individuals should be eliminated from dusty occupations. We do not have time today to go into the subject of aluminum prevention and therapy of silicosis, but if the moisture theory which seems to offer a reasonable explanation for many of the variations of silicosis is sound, then the chemical basis of silicosis is reasonable and aluminum therapy to produce dryness would seem to have some basis.

REFERENCES

Barclay, A. E., Franklin, K. J., and MacBeth, R. G. Roentgenographic studies of excretion of dusts from lungs. Am. J. Roentgenol. & Radium Therapy, **39**: 673-686, May 1938.

Barclay, A. E., Franklin, K. J., and Prichard, M. M. L. Further lung-dusting experiments. Am. J. Roentgenol. & Radium Therapy, **47**: 362-367, March 1942.

Denny, J. J., Robson, W. D., and Irwin, D. A. Prevention of silicosis by metallic aluminum; preliminary report. Canad. M. Assoc. J., **37**: 1-11, July 1937.

Gardner, L. U. Etiology of pneumoconiosis. J. Am. M. Assoc., **111**: 1925-1936, November 19, 1938.

Gardner, L. U. Pathology and roentgenographic manifestations of pneumoconiosis. J. Am. M. Assoc., **114**: 535-545, February 17, 1940.

Gardner, L. U. Similarity of the lesions produced by silica and by tubercle bacillus. Am. J. Path., **13**: 13-24, January 1937.

Pancoast, H. K., Pendergrass, E. P., Riddell, A. R., Lanza, A. J., McConnell, W. J., Sayers, R. R., Sampson, H. L., and Gardner, L. U. Roentgenological appearances in silicosis and the underlying pathological lesion. Pub. Health Rep., **50**: 989-996, 1935.

Pendergrass, E. P. Some considerations concerning the roentgen diagnosis of pneumoconiosis and silicosis. Am. J. Roentgenol. & Radium Therapy, **48**: 571-594, November 1942.

DISCUSSION

Dr. T. G. Clement, Peoria: I think Dr. Davis gave a very good presentation of silicosis. All of my experience with silicosis has been in the northern and central parts of the United States where they mine copper and iron. I think all his statements are absolutely correct.

I believe there is an explanation as to why the nodule does not increase in size. The paper which I read on silicosis before the Radiological Society of North America three or four years ago pointed out the fact that in studying these films of men who are perfectly well and who have been drilling rock for years underground, the nodules usually never exceed 6 mm. in diameter. I believe that is the maximum size to which they may develop because, when they get to about that size, then the lymph channels are entirely shut off and there is no way to feed that nodule any longer and consequently there is no way for the silicotic dust to get to it.

Also, around these nodules, if you will notice in the microscope, there is usually a dense limiting membrane of fibrosis which prevents their enlargement.

A man went to a mental specialist.

"What seems to be the trouble?" asked the doctor.

The patient responded by vigorously brushing imaginary things off his arm, explaining: "See? I have scorpions on my sleeve!"

The specialist, backing away, screamed: "Well, you don't have to brush them off on me!"

Tattler & Bystander.

RADIATION THERAPY IN CHRONIC LEUKEMIA

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One of the greatest hazards to the progress of civilization and science today is our acceptance of our status quo as final. Any disease which is always described as "incurable" should be a perpetual challenge to our resourcefulness and merit our constant consideration. These are and can be the only reasons for presenting a paper on the treatment of chronic leukemia at this time. It will be a plea for more careful consideration in diagnosis and for continuation of carefully supervised conservative treatment.

Within the last few years there has been an attempt to rename or reclassify the types of the disease. It is easy to admit that the earlier designation of the various types was a little awkward, but a more recent classification by cell types rather than clinical manifestations seems to be more rational.

Acute leukemia, which is characterized by a preponderance of immature leucocytes and runs a very short course, is of sudden onset. The onset may be with gingivitis, sore throat, fever, pallor due to anaemia, anorexia, purpura, joint pains or lymphadenopathy. Any one of these symptoms or all of them may occur at the onset. Splenomegaly is present in 60 to 70% of the patients, especially in those with acute lymphoblastic leukemia. Half of these patients have an enlargement of the liver. Some of them have involvement of the skin, the so-called leukemia cutis. In fact, leukemia cutis may be the first manifestation.

The total leucocyte count may not be higher than 100,000. It has been known to be as low as 400. There is a reduction in the blood platelets, the white cells are preponderantly immature. The few mature cells seen are polymorphoneuclears and myelocytes of the neutrophilic variety with no eosinophiles or basophiles. The anemia is sever and progressive. In acute lymphoblastic leukemia, the lymphoblasts may number as high as 90%.

The duration of acute leukemia may be as short as two weeks, or as long as several months. The treatment is certainly not radiation therapy.

Aleukemic leukemia, some times called pseudo leukemia or leucopenic leukemia or subleukemic leukemia, should, as far as therapy by radiation is concerned, be classified with the acute leukemias. In fact it is a more or less prolonged form of acute leukemia and rarely has the typical manifestations of chronic leukemia.

CHRONIC LEUKEMIA

Chronic leukemia, which is characterized by an increase in the number of leucocytes in the blood, the majority of which are the mature forms, is of slow onset. In many instances its onset may be said to be insidious and often it is discovered in the course of routine examination. The presenting symptoms may be anemia, anorexia, loss of weight, flatulence, hematuria, gingivitis, pain in the back, enlargement of the liver or of the spleen. The constant findings are loss of weight, anemia, lymphatic gland enlargement, and enlargement of the spleen. The liver is usually palpable but jaundice and ascites are rare. Very often anoxemia is present. Cardiac enlargement with murmur and pulmonary congestion have been noted. Purpura, leukemia cutis, skin lesions of rounded discolored masses and herpes zoster have occurred. The skeletal and nervous systems have been attacked.

For consideration of treatment with rays of short wave length only two types of chronic leukemia will be discussed; the myeloid and lymphoid types.

CHRONIC MYELOID LEUKEMIA

Chronic myeloid leukemia is said to occur more frequently in males, in the proportion of about 60 males to 40 females. It is said also to occur more frequently in the earlier years of middle life as contrasted with lymphoid leukemia which occurs in the later years of middle life. The male patient presents himself complaining of various symptoms but most often of a heavy sensation in the left upper quadrant of the abdomen, pallor, weakness, loss of weight and gastric disturbance. The female patient presents the same symptoms plus some disturbance of menstruation.[2] As the disease progresses bleeding of the gums, palpitation, dizziness and shortness of breath may appear. At times the appetite is excessive although the patient continues to lose weight. Hot flashes, in both men and women, with hyperhydrosis occur. Later on the liver

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enlarges slightly and the spleen is definitely palpable. Lymphadenopathy may or may not occur. When present, the glands are usually soft and the enlargement is not marked. Pain over the sternum has been noted in the majority of cases. Low fever is sometimes present. The basal metabolic and the sedimentation rates are increased. Remissions occur and the patient may, from time to time, for varying periods show improvement in all manifestations of the disease and feel quite comfortable. Later the symptoms return and may or may not be increased.

The blood picture of chronic myeloid leukemia is not constant or typical, but is usually about as follows. The total white count varies from 100,000 to 800,000 cells. The cell distribution is segmented neutrophyles 30 to 70%, metamyelocytes and myelocytes 30 to 50% and myeloblasts 2 to 10%. There may be, early in the disease, a moderate number of immature cells. The majority of the myelocytes are neutrophilic, except in the rare cases of eosinophilic leukemia in which the eosinophiles make up about 90% of the cells and in basophilic leukemia where the basophiles number about 60%. Lymphocytes are decreased in percentage but increased in actual number. The anemia is usually hypochromic in type. Other abnormalities, such as nucleated red cells, polychromatophilia, and basophilic stippling, are usually present.

The prognosis is poor and all authors state that the condition is invariably fatal. The duration of life is from three to fifteen years. Intercurrent disease often produces death.

The diagnosis should be made by a competent hemotologist and the correctness of the diagnosis should be his responsibility. But the radiologist should be sufficiently schooled in the recognition of the different types of cells and their significance to intelligently discuss the variations of the disease with the hemotologist.

At autopsy the bone marrow and the spleen reveal the more characteristic findings. The spleen is enlarged although little change in shape may be encountered. The cut surface is smooth and gray. The capsule may be adherent. Under the microscope, cells similar in character to those found in the peripheral blood stream seem to infiltrate the entire tissue so that its normal structure is partially obliterated giving it the appearance of bone marrow. Here and there may be evidences of infarction. It is possible that the spleen is only a filter but there is some evidence to suggest that it has partially resumed its original blood forming function.

The bone marrow is changed in appearance from that of a yellowish fat color to gray, red or brown. Microscopically cells of the granular series predominate; neutrophiles, eosinophiles, basophiles and melocytes. Occasionally myeloblasts are seen. The erythroblastic tissue is largely replaced by leucoblastic tissue.

The liver is somewhat enlarged but its shape rarely undergoes any change. Infiltration of the capillaries is present and they are distended with cells of the type found in the spleen, bone-marrow and the circulating blood. The lymph nodes may show no change, or they may show infiltration with myeloid cells. In fact, infiltration of any organ of the body may occur and it is this infiltration of the tissues that leads to hemorrhages of all varieties, even hemorrhage of the brain.

CHRONIC LYMPHOID LEUKEMIA

Chronic lymphoid leukemia is said to occur most frequently in the later years of middle life and to attack the sexes in the proportion of about 75 males to 25 females. Its onset may be more insidious than that of chronic myeloid leukemia. Oftentimes the disease has been present for months before the patient consults the physician on account of enlarged painless lymph nodes, pallor, weakness, dyspnea, loss of weight, vertigo or hemorrhages. Oftentimes the lymphadenopathy may be present for many months and the patients general health be considered good. It has been said also that the lymphadenopathy of lymphoid leukemia is more marked than in myeloid leukemia, while the enlargement of the spleen is greater in the latter type of the disease. Leukemia cutis may be the only manifestation or other skin abnormalities such as bronzing, urticaria, pruritis, nodules and pustules may be present. In chronic lymphoid leukemia as in chonic myeloid leukemia, the basal metabolic rate and the blood sedimentation rate are increased. On the whole, lymphoid leukemia seems to run a much milder course than myeloid leukemia. But the statements made concerning remissions and exaccerbations of chronic myeloid leukemia hold good for chronic lymphoid leukemia. However, in the later stages of chronic

lymphoid leukemia the exaccerbations are more often of the acute type and the decline of the patient more rapid.

The blood changes in chronic lymphoid leukemia are quite typical, although variations from the classical findings occur frequently. The total white count is not as high as in chronic myeloid leukemia. It is variously stated as ranging between 100,000 and 250,000 with the average of a large number of patients being 150,000 cells on admission. The stained smear gives the so-called "monotonous" type of picture because 90% to 99% of the cells are small lymphocytes. When anemia is present it is of the hypochromic type, although during remissions the red cell count and the hemoglobin may be near normal. Anisocytosis and poikilocytosis and a few nucleated red cells are present, depending upon the degree of anemia.

What has been said about the prognosis of myeloid leukemia applies to lymphoid leukemia.

The typical case of chronic lymphoid leukemia is easily diagnosed. In the younger patients, especially those that present a moderate leucocytosis, infectious mononucleosis must be considered. Pertussis, aplastic anemia and acute leukemia must be seriously considered. As a rule, the cough, little or no lymphadenopathy and the age of the patient should aid in the diagnosis of pertussis. In aplastic anemia the differentiation from aleukemic lymphoid leukemia is not marked and careful observation with repeated hematological studies should be made. Bone marrow biopsy should help markedly in the differential diagnosis. In case of doubt, treatment by rays of short wave length should not be given.

In chronic lymphoid leukemia the changes found at autopsy occur in the lymph tissue as well as in the bone-marrow and spleen. In all the organs the infiltration is with lymphocytes instead of cells of the granular series. Infarcts are less common. There is less change in the bone-marrow since in many areas normal leukogenic centers are present. Later the entire bone-marrow may be invaded by lymphoid cells. The spleen is moderately enlarged. It presents marked hyperplasia of lymph follicles. It is infiltrated with lymphocytes. The lymph nodes are all enlarged. The normal lymph gland structure is replaced by lymphocytes and the microscopic picture resembles lymphosarcoma.

Many pathologists state that lymphatic leukemia resembles lymphosarcoma and that myelogenous leukemia resembles multiple myeloma. The impression that lymphosarcoma and myeloma are neoplasms leads them to place leukemia in the same classification, that of the neoplastic diseases.

In the order of their sensitivity to the action of rays of short wave length lymphoid cells come first. Next come polymorphonuclear leucocytes or bone-marrow cells. There are no intervening types and these two come first. All other types of cells and tissues are more resistive. This explains the response of these two diseases to short wave radiation.

Treatment — In the treatment of chronic leukemia with rays of short wave length there are several things to be considered. Most important of these is the general physical condition of the patient. At his first visit, the patient with myeloid leukemia is probably complaining of weakness, loss of weight and a heavy sensation in the left upper abdomen or perhaps some gastric disturbance. The laboratory examinations disclose a moderate anemia and a marked leucocytosis. The patient's discomfort should merit our first consideration, not the laboratory findings of which the patient is unaware. What is our plan of attack? From any point of view it is better to relieve the distress in the upper abdomen, which is undoubtedly caused by the enlargement of the spleen. If we slowly and carefully attack the left upper quadrant by means of radiation of short wave length, we will slowly, it is true, but surely relieve the patient's symptoms without the possibility of precipitously making him more uncomfortable. The initial dose of roentgen therapy should be small enough to obviate absolutely the possibility of producing roentgen sickness or of too markedly reducing the white count. If this precaution is not followed the patient is immediately changed from one who is moderately comfortable to one who is definitely ill. He will immediately dread all subsequent treatments which he knows he must receive, and he is suddenly caused to believe that he is more seriously ill than he at first supposed. He is led to feel that this reaction is the natural result of all roentgen therapy and a pernicious mental attitude is at once established. The dis-

ease is insidious in onset and slow in development. Why, then be catastrophic in its treatment?

What should be the upper limit of the initial treatment? Certainly not more than 100 r at medium voltage and over one area only. In the majority of cases 75 r is sufficient. What should be the interval between this first treatment and the second. Certainly one week and possibly ten days. By proceeding cautiously we are able to observe the result of each treatment and space more accurately the interval between treatments and gauge more definitely the intensity of succeeding treatments. If the presenting leucocyte count was 600,000 cells and the first treatment reduced the count to 450,000 cells, the susceptibility of the disease in that particular patient is established and the therapy may be administered at longer intervals of time. If the reduction is only to 550,000 cells the susceptibility is not as marked and treatment may be given oftener. We plan to have this patient live and be treated for ten or fifteen years so it seems unwise to administer a "close-to-tolerance" dose in thirty days or less. The patient should be seen once a week during the first months of treatment and a careful evaluation of his symptoms and a complete blood count be made at each visit. If we have not created a treatment hazard in the patient at his first visit he displays definite improvement at his second visit.

The second treatment may be directed over the marrow of one of the long bones, or, if the patient has sternal pain, over that bone, or the spleen may be again treated. After three or four visits an extremely accurate estimate of the patient's susceptibility and response to short wave therapy may be made and a proper plan of action established.

In chronic lymphoid leukemia the most distressing symptom is the lymphadenopathy. Certainly these lymphatic gland enlargements, which may produce physical distress or may be displeasing to the patient from a cosmetic standpoint, should be treated first. Conservatism should again be used and the first treatment be small, possibly never more than 100 r and preferably 75 r. One area only, as was suggested for myeloid leukemia is sufficient at the first visit. Distant untreated areas tend to improve and all the glandular enlargements need not be treated. The same weekly visit should be required of the patient and an examination of the blood should be done as in the treatment of myeloid leukemia. It is certainly not necessary to treat the patient just because he is there, close at hand. Personal restraint on the part of the roentgenologist must be exercised and he must not feel that he is neglecting an opportunity. While due consideration should be given to the magnitude of the white cell count, it is well to remember that the patient with chronic leukemia carries a high leucocytosis with much more comfort than he does a low count. In myeloid leukemia a leucocyte count of 100,000 is not incompatable with good health and long life. In lymphoid leukemia 60,000 to 75,000 leucocytes are not too many. An attempt to reduce the total number of leucocytes too rapidly to too low a level may precipitate a chronic condition into an acute leukemia, or so markedly weaken the patient that he and the purpose of the treatment are both defeated. Slow, careful, well considered therapy in each case should be the studied attitude of the roentgenologist.

It is perfectly true that oftentimes the referring physician, the patient, or the patient's family may become discouraged because the process of therapy seems too slow. They want a quick cure. A rapid reduction in the number of the leucocytes may be obtained but the reaction is severe and the recurrance prompt. A careful explanation to the patient or his family and a little positive conversation with the referring physician will usually result in profitable cooperation.

This plea for a minimum of short wave radiation in the treatment of chronic leukemia is made as a gentle reminder only. All too frequently, as the months pass by, we gradually increase the intensity of the treatment and shorten the interval between treatments, hardly realizing that a transition in our method has taken place. It always pays to review some of our former work and compare our recent results. It is earnestly urged that more careful consideration be given each patient in endeavoring to see how little radiation may be employed in the treatment of chronic leukemia, rather than in trying to determine how much radiation the patient may tolerate. Certainly the old rule that "if a little is good, more is better" is not ap-

plicable in the treatment of chronic leukemia. 1007 Lehmann Bldg.

DISCUSSION

Dr. Harold Swanberg, Quincy: I don't know whether I misunderstood Dr. Clement or not, but he spoke about these patients living from ten to fifteen years. That, of course, is a long time for a leukemic patient to live. I appreciate that he said he did not have any statistical studies available, but could he give us some idea how many patients live ten or fifteen years under this method of treatment? I would like also to know if he has varied the wave length, or the kilo voltage of his radiation technique during the course of the treatments.

Dr. Harry Olin, Chicago: I would like to ask Dr. Clement a question. Some years ago there was an article in the Journal of Experimental Medicine on withdrawing from a leukemic patient about 200 to 200 c. c. of blood, mixing it with potassium citrate, irradiating the blood in a sterile beaker, and then re-injecting it into the patient and producing the same amelioration of symptoms and also the reduction in the white count as if the patient were treated externally. I would like to ask Dr. Clement if he finds any difference, according to the treatment. I try to keep the treatments far apart, being guided by the white count and occasionally by the basal metabolic rate.

Dr. T. J. Lang, Rockford: I would like to ask Dr. Uhlman if his observations on the BMR pertain to both types of leukemia, lymphatic and myelogenic.

I should like also to ask in what percentage of patients with leukemia, the BMR can be relied upon in guiding the therapeutic efforts.

Dr. T. G. Clement, Peoria (closing): In reply to Dr. Swanberg, if my memory serves me right, in the city of Duluth over a period of seventeen years we had twelve patients live twelve years and we had five patients live almost fifteen years. In the statement which I made in my paper, I probably was optimistic when I said we expect this patient to live twelve or fifteen years. I put that in to show that we should plan our attack on these principles, that the patient is not going to die right away, that we are going to have to treat him for a long time and therefore there is no reason for over-treating him in the first two or three months that he comes to see us.

You ask about the change of setting. I am perfectly frank in saying that we never change it. I originally started using 135 Peak kilovolts and 6 mm. of aluminum filter as recommended by Dr. des Jardins of the Mayo Clinic years ago, and I am still using that setting.

I want to thank Dr. Uhlman for bringing up the point about the basal metabolic rate. I have only been out of the Navy a few months, and it was not before us for our consideration before I went into the Navy. We are just beginning to use it now so I did not make any mention of it from a personal experience standpoint.

THE EFFECTS OF DRUGS ON THE ELECTROCARDIOGRAM

T. R. Van Dellen, M.D. and
J. R. Miller, M.D.
CHICAGO

The literature contains much evidence that numerous physical and chemical agents can effect the cardiac conduction system. Striking examples have been reported where these have been used on experimental animals. Fortunately, but a few of these agents produce significant changes in man when used in therapeutic doses.

Alterations in the conduction mechanism are most readily demonstrated by the electrocardiogram. For their proper interpretation it is important that one be able to recognize changes which result from factors other than organic heart disease. This is true in the proper evaluation of borderline or serial electrocardiograms, particularly when the patient is receiving medication.

Reactions are known to occur following the administration of various substances even though they be given according to accepted methods. A reasonable explanation for these unfortunate events is frequently lacking. Necropsy may be of no aid. The usual explanations are "bad hearts," "idiosyncrasies," "general debility," etc. Investigators, who have used the electrocardiogram to study the effect of various drugs on the heart of laboratory animals have noted severe forms of irregularities sufficient to cause death without post mortem evidence of pathology in the heart. This is particularly true when high blood concentrations are obtained. It is, therefore, reasonable to suspect that similar conditions may cause death or non-fatal reactions in certain human beings.

In this paper we propose to review the action of various drugs on the electrocardiogram. Due to a lack of uniformity in the administration of substances studied and varying periods when records were made, there is considerable controversy regarding certain abnormalities.

Calcium, when administered intravenously to animals, produces[1,2] definite electrocardiographic changes. These consist mainly of bradycardia,

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elevation of the T-wave and prolongation of the P-R interval. Atropine is capable of abolishing these abnormalities, and consequently they can be considered of vagal origin. Various degrees of A-V block are not uncommon. As the concentration of calcium in the blood increases, signs of ventricular irritability are evidenced by the occurrence of premature contractions or ventricular fibrillation. Death results from cardiac arrest either with or without a preceding ventricular fibrillation. When 10 cc. of a 20% solution of calcium gluconate is administered intravenously to normal individuals,[3] a flattening or inversion of the P and T-waves is frequently noted associated with the usual bradycardia.

Potassium[4,5,6] is also capable of producing rather marked changes in the electrocardiogram. These consist initially of an elevation of the T-wave followed by a lowering of the ST segment. The P-wave becomes widened and ultimately disappears. An intraventricular block is not uncommon, which progresses into a complete disorganization of the QRS complex. As the blood concentration increases, complete heart block, ectopic impulses, ventricular standstill and ventricular fibrillation are noted. The latter defects are usually seen with high blood concentrations but small amounts of potassium are also capable of producing these changes.

Magnesium is capable of depressing all parts of the conduction system[7,8] when administered to laboratory animals. The heart rate at first increases, then decreases. A typical prolongation in the P-R interval is noted leading to various degrees of A-V block. A widening of the QRS complex is not unusual. Extra systoles and ventricular fibrillation have been reported. The T-wave and ST segment are not characteristically changed but inversion of the former complex may occur. With larger doses cardiac arrest ensues, preceded always by respiratory paralysis. When therapeutic doses of this drug are administered intravenously to animals or man, minor changes have been noted.

The effect of digitalis on the conduction system is well established.[9] It consists mainly of bradycardia, followed by flattening and inversion of the T-waves. The ST segment is usually lowered with a tendency toward flattening. Changes in the A-V conduction time appear later, with an increase in the P-R interval. More toxic doses cause ectopic impulses, auriculoventricular dissociation and ventricular fibrillation.

Barbiturates have little influence on the conduction system of the heart. Of significance is their ability to abolish existing arrhythmias and they may prevent the occurrence of abnormalities usually produced by certain drugs, notably, calcium and digitalis.[10,11]

It is well known that nicotine will alter cardiac activity. In dogs and rabbits, toxic doses may produce nodal rhythm, auricular flutter and heart block.[12] Increase in the amplitude of the T-waves and decrease in the amplitude of the R-waves have also been reported.[13] When tobacco smoke is inhaled, extra systoles may develop and in a recent study[14] the T-waves were lowered or inverted in 15 out of 45 patients following the smoking of one cigarette. On the other hand, the ingestion of four ounces of whiskey produces no significant change on the electrocardiogram.[15]

Hartwell, Burrett, Graybeil, and White[16] recently reported their observations on the effect of four commonly used drugs on the T-wave. This wave was lowered after the subcutaneous injection of 1:1000 adrenalin hydrochloride, 1/50 grain of atropine or 15 to 25 mgm. of mecholyl. Five-tenths to 1 mgm. of ergotamine elevated the T-wave. These studies were performed on healthy human beings. The observations on mecholyl confirms the earlier investigations of Page.[17] According to Halsey,[18] atropine will not only increase the heart rate, but it will also alter the P-waves. The A-V conduction time is slowed with small doses and quickened with larger doses. Atrioventricular rhythm has also been reported.[19] Adrenalin may evoke premature contractions, increase the P-R interval and cause other arrhythmias.[20]

Mercurial diuretics are capable of producing marked electrocariographic changes in dogs when administered intravenously.[21] There is a depression of the T-waves, runs of extrasystolies, ventricular tachycardia, ventricular fibrillation and death.

Dilantin (phenytoin sodium) currently used in epilepsy also has an effect on the cardiac conduction system. In experimental animals,[22] the

first evidence of involvement of the heart is a prolongation of the A-V conduction time, associated with a widening and increased amplitude of the P-wave. This is followed by a depression of the ST segment, elevation in the height of the T-waves, bradycardia and finally an ectopic rhythm of ventricular origin. Clinically, Mallach, et al,[23] were able to demonstrate electrocardiographic changes in 25 out of 27 patients receiving therapeutic doses of this drug. These changes consisted of a prolongation of the P-R interval and a lowering of the T-wave.

The sodium salts of sulfapyridine, sulfadiazene or sulfathiazole have little effect on the conduction system. An increase in heart rate, with a corresponding decrease in the P-R interval and premature contractions have been reported.[24] Dozzi[25] cited one case of nodal rhythm and myocardial damage in man following the use of sulfanilamide.

COMMENT

An attempt has been made to describe the effect of various drugs on the cardiac conduction system of laboratory animals and man. The list of drugs is far from complete. We have presented evidence to show that factors other than organic heart disease may influence the electrocardiogram. This is important for the proper evaluation of borderline or serial electrocardiograms, especially when drugs are being administered.

The possibility that the cardiac conduction system may be responsible for reactions or even fatalities following drug administration is also of importance. These abnormalities are in most instances demonstrated only with the electrocardiogram. These changes depend on blood concentrations, which in turn depend on the rate of injection, the amount administered, and, to a lesser degree, the rate of excretion.

It is not the purpose of this paper to discourage the administration of drugs in general as those in current use have no serious effect when administered correctly.

REFERENCES

1. Clarke, N. E.: The action of calcium on the human electrocardiogram. Am. Heart J. 22:367, 1941.
2. Hoff, H. E., Smith, P. K., and Winkler, A. W.: Electrocardiographic changes and concentration of calcium in serum following intravenous injection of calcium chloride. Am. J. Physiol. 125:162, 1939.
3. Berliner, K.: The effect of calcium injections on the human heart. Am. J. Med. Sc. 191:117, 1936.
4. Winkler, A. W., Hoff, H. E., and Smith, P. K.: Electrocardiographic changes and concentration of potassium in serum following intravenous injection of potassium acetate. Am. J. Physiol. 124:478, 1938.
5. Castleden, L. I. M.: The effect of potassium salts on cardiac irregularities. Brit. Med. J. 1:7, 1941.
6. Sampson, J. J., Alberton, E. C., and Kondo, B.: The effect on man of potassium administration in relation to digitalis glycosides, with special reference to blood serum potassium, the electrocardiogram, and ectopic beats. Am. Heart J. 26:164, 1943.
7. Miller, J. R., and Van Dellen, T. R.: Electrocardiovascular changes following the intravenous administration of magnesium sulfate. An experimental study on dogs. J. Lab. and Clin. Med. 23:914, 1938.
8. Smith, P. K., Winkler, A. W., and Hoff, H. E.: Electrocardiographic changes and concentration of magnesium in serum following intravenous injection of magnesium salts. Am. J. Physiol. 126:720, 1939.
9. Cushny, A. I.: The action and uses in medicine of digitalis and its allies. London, 1925, Longmans, Green and Co.
10. Hoff, H. E., and Nahum, L. H.: An analysis of the cardiac irregularities produced by calcium, and their prevention by sodium amytal. J. Pharmacol. and Exper. Therap. 60:425, 1937.
11. Van Dellen, T. R., Roberts, R. C., and Miller, J. R.: The effect of pentobarbital on the cardiac conduction system of the digitalized dog's heart. Am. Heart J. 23:772, 1942.
12. Bull, Clerc, and Pezzi: Recherches électrocardiographiques sur l'action de la nicotine. Soc. Biol. 77:213, 1914.
13. Mattioli, M: Variazione elettrocardiografische nel tabagismo e nel nicotinismo. Morgagni 74:59, 1932.
14. Graybiel, A., Starr, R. S., and White, P. D.: Electrocardiographic changes following the inhalation of tobacco smoke. Am. Heart J. 15:89, 1938.
15. Van Dellen, T. R., Poindexter, C. A., and Wright, I. S.: Unpublished data.
16. Hartwell, A. S., Burrett, J. B., Graybiel, A., and White, P. D.: The effect of exercise and of four commonly used drugs on the normal human electrocardiogram, with particular reference to T-wave changes. J. Clin. Invest. 21:409, 1942.
17. Page, I. H.: Acetyl-B-Methylcholin (Mecholin). Observations concerning its action on the blood pressure, skin temperature and the heart, as exhibited by the electrocardiogram of hypertensive patients. Am. J. Med. Sc. 189:55, 1935.
18. Halsey, J. T.: The digitalized dog's heart as affected by amyl nitrite or atropine, studied electrocardiographically. J. Exper. Med. 25:729, 1917.
19. Wilson, F. N.: The production of atrioventricular rhythm in man after the administration of atropin. Arch. Int. Med. 16:989, 1915.
20. Hume, W. E.: The action of adrenalin chloride on the human heart. Quart. J. Med. 21:459, 1928.
21. Barker, M. H., Lindberg, H. A., and Thomas, M. E.: Sudden death and mercurial diuretics. J. A. M. A. 119: 1001, 1942.
22. Scherf, D.: Changes in the electrocardiogram after intravenous administration of phenytoin sodium (dilantin) in the acute experiment. Bull. N. Y. Med. College, Flower and Fifth Avenue Hospitals 6:82, 1943.
23. Mallach, J. F., Finkelman, I., Arieff, J., and Roberts, R. C.: Electrocardiographic changes resulting from dilantin medication. Quart. Bull. Northwest. Med. School 17:97, 1943.
24. Hafkesbring, R., Greisheimer, E. M., and Wertenberger, G. E.: The effects of various sulfonamide drugs on the electrocardiogram of the dog. Am. Heart J. 26:333, 1943.
25. Dozzi, D. L.: Transient nodal rhythm following use of sulfanilamide. Am. J. Med. Sc. 195:771, 1938.

DISCUSSION

Dr. J. Roscoe Miller: I have little to offer except what Dr. Van Dellen has already reported. Our attention was called to the importance of this subject on a number of occasions a few years ago where a mistaken diagnosis was made early because we did not recognize the fact that certain drugs had been administered and that therefore the electrocardiogram had been altered. In each case shown there was a significant alteration — so much so that a diagnosis of organic heart disease of some nature could easily have been made had we not been cognizant of the fact that drugs could produce the changes.

THE ACUTE ABDOMEN

ANDY HALL, M.D. AND A. W. MODERT, M.D.
MT. VERNON

The definition of an acute abdomen is "Any acute condition within the abdomen demanding immediate operation."

In discussing the subject, we at once note that we are confronted with a vast variety of rapidly progressing pathological conditions which require prompt, accurate diagnosis and speedy attempts to aid in the repair or correction of the attacking condition. It may be traumatic as gunshot wounds, external blows to the abdomen resulting in injuries to the abdominal viscera which may cause intestinal perforations, hepatic, splenic, mesenteric, or injuries to other organs which may or may not be accompanied with hemorrhage. Again, we must deal with the many diseases which may attack any organ or structure within the abdominal cavity.

The importance of this subject is emphasized by the large number of deaths that occur annually in this State as a result of acute abdominal lesions, which do at some time develop symptoms of acute abdomen. Just how many of these deaths could have been prevented by prompt diagnosis and timely operation we can only conjecture. But we have every reason to believe that the number of deaths could be materially reduced.

The responsibility of this large mortality does not lie wholly upon the shoulders of the surgeon who operates these cases. It is true that some surgeons lack skill, experience and judgement. But the operations for intra-abdominal lesions are fairly well standardized. In most every community you can find a well equipped hospital and surgeons sufficiently skilled to meet the demands in most of these cases.

It is my observation that many of these deaths occur as a result of failure to make a prompt diagnosis or failure to advice and secure an early operation after a diagnosis has been made. The man responsible for making the diagnosis and giving or advising prompt surgical treatment is the family physician who is first called to see these patients. Too often internal medication is given to meet the symptoms without giving due study and consideration of the possible lesions that might be responsible for causing the symptoms present.

The first and most important function of every physician when called to see a patient is to make a diagnosis — find out what is the matter with the patient. Unless this is done he will be unable to outline and give proper treatment, he will lose valuable time, prolong the convalescence, and may even sacrifice the life of his patient. Once a diagnosis is made of an "acute abdomen" there should be no question or hesitation concerning the course of treatment.

If a doctor is uncertain about the diagnosis or treatment in a patient who seems seriously sick, he should never hesitate to call in counsel. It will relieve him of shouldering all the responsibility and will often result in saving the life of his patient and his own reputation.

In a patient suffering from an acute or prolonged abdominal pain or other symptoms indicating serious intra abdominal trouble, the physician should bear in mind the lesions that might be responsible for these symptoms. He should take into consideration the history, subjective symptoms, physical findings, and if necessary the laboratory and x-ray findings if they seem indicated. If all these fail and the case is urgent, the attending physician should not hesitate to advise an exploratory laparotomy. Sometimes this is the only means whereby we can make a differential diagnosis and by appropriate treatment give relief to the patient.

I have secured from the Department of Public Health the mortality statistics covering 1932

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and 1942. This indicates that in 1932 no less than 3,243 lives were lost from diseases that before death produced symptoms or manifested themselves by what we know as an "acute abdomen". In 1942 — ten years later — the same diseases resulted in 2,780 deaths. These statistics are as follows:

	1932	1942
Appendicitis	1,169	538
Intestinal Obstruction	516	486
Ulcer Stomach	401	411
Biliary Calculi	363	284
Hernia	309	307
Non-malignant Tumors of Uterus	151	109
Ulcer of Duodenum	124	172
Non-malignant Tumors of Ovaries, Tubes and Parametrium	154	109
Ectopic Gestation	56	25
Total	3,243	2,780

To the above list we might add perforations of the intestines as a result of typhoid or dysentery. Also one should bear in mind the numerous injuries to the abdominal viscera as a result of traumatism causing an acute abdomen.

Perhaps no subject has been more freely discussed throughout medical journals and in our medical meetings during the past forty years than has appendicitis. Yet, in 1932, 1,169 deaths occurred in Illinois from this disease. In 1942 there was a marked drop to 538 deaths which is no doubt due to a more enlightened and alert public, better trained family physicians, better hospital facilities and more experienced surgeons. Yet with 538 deaths from appendicitis in 1942 there is need for more prompt diagnosis and immediate surgery.

What are the important factors involved in producing fatal results in appendicitis? In my opinion there are three: the indiscriminate administration of purgatives, delayed diagnosis and late operations. Dr. John O. Bower, surgeon, Philadelphia General Hospital, made a study of 8,216 cases of appendicitis occurring in that city during 1928, 1929 and 1930. Only cases admitted to the hospitals were considered.

The records showed that 3,095 cases of appendicitis were admitted to 28 Philadelphia hospitals during the year 1930. Of this number 149 died. Of the 402 patients who had been given no purgatives or laxatives only 5 died — this is 1 death out of 80 patients. Of 889 who received one laxative 62 died, or 1 in 14. Of 103 cases that had been given two or more doses of laxatives 15 died, or 1 out of 7.

Ofttimes a purgative has been administered by the family or friends before a physician is called. But far too often for the good of the patient, if a purgative has not been administered that is usually the first thing the physician does when he is called.

Administering a purgative to a suspected case of appendicitis is about the most dangerous and vicious thing that can be done. An enema is more effective, acts quicker and does less harm.

Some years ago Dr. John B. Murphy said that the time to operate a case of appendicitis was as soon as the diagnosis is made. This rule should invariably be followed; especially if the diagnosis has been made within the first 48 hours.

Time will not permit me to go into a lengthy detailed discussion of all the causes of an acute abdomen. However, prompt diagnosis and surgical treatment will save many lives and decrease the chronic defective individuals who must fight the remainder of their lives as best they can and be dependent on their relatives or friends to gain a meager existence.

Peptic ulcers are very common lesions and perforation of gastric and duodenal ulcers is not an unusual complication and should always be considered possibly in any sudden acute abdominal pain. Of 1,871 cases collected by Musser, perforation occurred in 28.1%. Of 272 duodenal ulcers in Mayo series, perforation occurred 60 times or upwards of 22%. The history, subjective and objective symptoms of a perforating peptic ulcer are quite positive. A delay of only a few hours in diagnosis and operation is often too late. If operated within the first six hours most will recover, after twelve hours but few will survive.

Prompt diagnosis and surgical treatment would save many who died from intestinal obstructions. This is especially true of infants and children where the obstruction is due to an intussusception or telescoped bowel. If diagnosis and operation is delayed until it is necessary to make a resection practically all of these young patients die. Three hundred and seven

died as a result of hernia in this State in 1942. Why should anyone die from hernia? Most of those who die from hernia could be saved by prompt diagnosis and proper treatment.

Of the 284 who died as a result of biliary calculi in 1942, it is safe to say that most of these were of long standing, that they had stones in the common duct, that they were jaundiced, had become infected or were in bad physical condition at the time of the operation. Early diagnosis and operative treatment would have most of them. Prolonged internal medication month after month and year after year is simply paliative, cures none of these cases, and is ofttimes continued until serious complications have arisen that greatly lessen the patient's chances of recovery even though he be operated by the most skillful surgeons in the country.

It goes without saying that non malignant tumors of the uterus, cysts of the ovary and ectopic gestations are most easily diagnosed.

Ectopic gestation, once considered quite rare, is not an uncommon complication in pregnancy. A rupture usually occurs within the fifth to eighth week. If a physician is called to a patient of childbearing age, suffering from an acute, severe abdominal pain lowdown in the pelvis and accompanied by shock, he should always bear in mind the possibility of an ectopic pregnancy. Prompt diagnosis and treatment will save practically all of these patients.

Infections of the tubes, ovaries, and parametrium can usually be diagnosed early by the history, subjective symptoms and physical findings. Vaginal drainage, or laparatomy in suitable cases, will relieve most of these patients.

The death of 538 cases of appendicitis annually in Illinois, 285 from biliary calculi, 307 from hernia, 109 from non malignant tumors of the uterus and upwards of 2,780 from various intra abdominal lesions not of malignant character is a challenge to the medical profession of this State.

In summing up the acute abdomen:

1. It is a big T.N.T. mined field and look out for the squibb may blow out your patient's light while you are looking for a match.
2. Remember that the patient's time to the operating room must be short if you are to win the battle of abdominal explosions.
3. Periodical public education will save many a life. The physician and surgeon must realize his responsibility.
4. Make a prompt diagnosis with necessary consultation and act accordingly.

Surgery has reached such a high state of efficiency and skill that not much more can be accomplished by the surgeons discussing these subjects among themselves. The greatest hope is in the discussion of these problems with the family physicians, the general practitioners, the men who are first called to see cases of this character, and last but not least a campaign of education to the layety. The physician should educate himself in the symptoms and diagnosis of an acute abdomen and instill into himself a consciousness of his responsibility in making an early diagnosis and advising early surgical treatment.

DISCUSSION

Dr. Everett P. Coleman, Canton — Mr. Chairman, members of the Section on Surgery, Doctors Hall and Modert have given a very excellent and very practical paper. The only thing I can hope in any discussion of it is to emphasize a few points that have already been brought out.

The term "acute abdomen" has been criticized grammatically but it carries the weight of medical usage and I am glad to hear it used.

It is true that some acute surgical pathology in the abdomen, most of it in fact, calls for immediate action. I do believe, though, that in some instances we should lay a little more stress on adequate preparation of the patient and upon diagnosis, not to the exclusion of immediate action because that is perhaps more important than any other thing, but also we should not neglect other points. We should get away from the all too common idea that immediate action means haste — that it means haste in diagnosis and haste in operation which tends to bring about the fact that a poorly prepared patient is subjected to an abdominal operation under rather difficult circumstances, difficult both for him and for the surgeon.

I would like to bring out three rather common conditions that come under this category. First, having gone through several years of treating acute appendicitis by operation whenever the diagnosis was made — and that in years gone by used to include the third, fourth and fifth day of the disease — we have changed our plans and when there is a spreading peritonitis we have turned toward conservative treatment. I think with the advent of the sulfa drugs the indications for going into the abdomen have been broadened because of the intra peritoneal use of sulfa drugs; but, on the other hand, a case of spreading peritonitis will frequently respond to intravenous sulfonamization and medical treatment of that condition in the abdomen during the phase of spreading peritonitis. As a matter of fact, once that condition has subsided

the removal of the diseased appendix carries little risk. During that time it carries a definite risk and keeps a mortality rate that has something to do with these figures that have been presented.

The second condition is that of acute intestinal obstruction. Unless diagnosis is made very early these patients come to the operating room — not necessarily to the hospital because sometimes they develop in the hospital, but they come to the operating room as very poor risks. They come in with an abdomen that is distended, they come in dehydrated, and surgically they are a decided problem once the abdomen is opened under these conditions, and, incidentally, they are very much poorer risks.

An immediate operation upon this type of patient carries an unnecessarily high mortality rate. That does not mean neglect or delay. It simply means that this type of patient can have anywhere from one to three hours spent in preparation — the passage of the Wangensteen tube, administration of intravenous fluids to overcome the dehydration, but particularly the relief of the distended abdomen so that, especially if the patient is vomiting, he is not going to vomit during the anesthetic, so if he is quite distended the closure of the abdomen will not be an almost impossible procedure. A short period of time — not delay, not neglect — will put him in a position whereby he is a much more favorable surgical risk. I think by paying some attention to this thought the mortality rate can be lowered.

The third condition is that of mesenteric lymphodenitis. Following acute respiratory conditions by a week or ten days, children and adolescents are quite prone to develop abdominal pain. Many times these are indistinguishable from attacks of acute appendicitis, and when the abdominal pain persists they should be subjected to immediate appendectomy when there is the least doubt. However, when the abdomen is opened and you find no evidence of inflammation in the appendix, further exploration will reveal the presence of mesenteric lymph nodes which have been responsible for the symptoms. The important thing here is that these patients always recover from the operation, they recover from their symptoms even though they may have had acute exacerbations of recurrent symptoms, and more important, a possible appendicitis has not been overlooked.

I want to thank Dr. Modert and Dr. Hall for the privilege of discussing their paper. I think it has been very helpful and very timely for this type of meeting.

Andy Hall, Mt. Vernon (closing): There is not much that I wish to add to the subject but I wish to call your attention to the great advances that have been made in abdominal surgery since I graduated from Northwestern University in 1890. At that time I had only seen two abdomens opened during my service in school and in the hospitals. The abdominal cavity was a forbidden field of operation at that time, but since then surgery has advanced to such a stage that thousands of lives are being saved now that otherwise would have been sacrificed.

There are just a few things that I want to emphasize in the diagnosis. All patients suffering acute abdominal pain, vomiting, examine them for hernia. Any number of times I have been called to see patients that have been treated for two or three days with vomiting only to discover that they had an incarcerated or strangulated hernia. Early diagnosis and early surgical treatment should save all hernia cases. The fact that so many people died here from hernia emphasizes the fact that an early diagnosis and early operation have not been made. The only excuse for a man dying from a henria operation is late diagnosis and a late operation.

Ectopic pregnancy, as the Doctor stated, is not an infrequent occurrence. Perhaps it occurs as often as do twin pregnancies, and an early diagnosis and an early operation will save possibly all extrauterine pregnancies.

CANCER OF THE LIP

D. B. Freeman, M.D., F.A.C.S.
MOLINE

In a brief discussion on cancer of the lip, attention should be called to the fact that all malignancies wherever located, have certain characteristics which are common, the tendency to destroy life, by invasion of surrounding tissue infiltrating deeper and deeper, later ulcerating thus causing hemorrhages often fatal and also the formation of metastases, primarily in the nearest group of lymph glands and later those adjacent and finally getting into the blood stream, becoming general, at which stage curative means are of no avail and all that remains to do is to alleviate. This is especially true of cancer of the lip. Apparent causes are precancerous lesions such as trauma, herpes, sunburn, heat burn, exposure to weather, smoking, degeneration of moles and warts, scaly patches, keratosis and leukoplacia. Carcinoma of the lip is usually or most often a squamous celled epithelioma, less frequent a basal celled epithelioma. The squamous celled bring more infiltrating, more penetrating and more subject to secondary glandular involvement and more resistant to radiation, consequently, harder to cure.

In cancer of the lip, the diagnosis should be fairly readily made, there are a few lesions from which it should be differentiated but those lesions

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Presented before the Section on Surgery, 104th Annual Meeting, Illinois State Medical Society, Chicago, May 17, 1944.

as a rule can be ruled out by laboratory and biological test, the most common lesions and those assuming characteristics more nearly like cancer are syphilis and tuberculosis. Lesions such as herpes, leukoplacia, cysts, the acute eruptions should give very little difficulty in the diagnosis. In arriving at a diagnosis, we should condemn the promiscuous cutting out of sections of the lip to make diagnosis unless these sections are removed by cautery excision. I am more and more convinced that there is danger of dissemination of the lesion whenever malignant tissue is cut into and areas opened up into lymphatic and vascular vessels. If a doubt exists as to whether it is a cancer or not, it should be *so* considered until a correct diagnosis is made. Much care should be exercised in determining the extent of involvement — some cases show very little on skin surface but the process extends deep into the tissue — it would be easy in this type to do an inadequate operation. Lip cancers vary as to their malignancy — some being more malignant than others — the same type varies as to rapidity of growth and spread dependent on the resistance of the individual, thus two factors produce the same condition, low resistance to cancer and increased malignancy.

The statement can be made that cancer of the lip should be one of the most easily eradicated of all malignancies for several reasons: First, the location is such that it soon attracts attention, if not to the individual himself, to some member of the family so that the patient should present himself to his physician. There is, as a rule, a considerable time elapsed between the time of discovery and the stage when it becomes inoperable, at least, a period of weeks when the proper methods for cure could be instituted and the cancer eradicated.

Most lip cancers are located on the lower lip. The name Smokers or Pipe Cancer is a misnomen since many non smokers develop this disease and it is not uncommon to find this disease in women and it follows the same identical course there as in the male. However, the concensus of opinion is that smoking is a predisposing cause and does cause irritation and causes more rapid growth. There is very little doubt that smoking causes leukoplacia which later becomes cancer. It will be interesting to note in future statistics whether the increasing amount of smoking by women will influence the incidence of this disease or not. The rapidity of growth varies considerably, but lesion appears identical at same stage. The location of the cancer on lip determines the course, spread and gland areas involved. In center of lip, both sides of neck are involved but located at angle of mouth it most likely is one sided secondary involvement. A study of the anatomy and histology of this part of the body readily shows the course which the disease follows.

Granted that a diagnosis has been made what is the correct method of procedure to cure and by cure I mean at least a three years freedom from any signs or symptoms and we know that very few recur after that period has elapsed. The treatment depends entirely on the amount of involvement and that can only be judged by a careful examination and by the experience of the surgeon who assumes the responsibility of this treatment. Needless to say, there is no one set pattern in the treatment of cancer of the lip and am presenting this paper for your consideration, not that it is the only method but one which has been successfully employed many times.

There is one important point to stress in the treatment of this condition and that is that it should be radical enough to remove all involved tissue no matter how extensive, if any cell or part of the malignancy no matter how small is not destroyed, there is bound to be a recurrence and your treatment has been of no avail, not only just a waste of time and energy but what is more important that lesion has become irritated and then the tendency is to make it flare up and grow much more rapidly. At this point, I want to emphasize the importance of doing a thorough eradication the *first* time any treatment is instituted. Kill it as you would a rattlesnake. The responsibility of a cure, if the lesion is in a curable stage, rests when first presented for treatment, entirely on the physician who first undertakes to cure the individual afflicted. If only such measures are used which do not destroy this growth or ulceration, or as I have seen many times, he is advised to leave it alone and to wait and see what will develop that time is lost and the disease soon passes into the stage when it is incurable. That time is lost when it could have been easily cured.

Obviously, then from what has been discussed, the treatment cannot be identical in every case. There is only one *dictum,* that is; a thorough destruction or eradication of all cancerous tissue no matter at what stage. No one method is applicable in these cases but it is by a combination of surgery, cautery, and radiation that the best results are obtained.

If the lesion is an extremely early one — a simple V-shaped excision by scalpel well away from involved area will suffice or better still, V-shaped removal by cautery, lip repaired at once, or the area allowed to granulate and then repair deformity. When wound is allowed to granulate, it does so rapidly unless some cancerous tissue is left. Even in these very early cases it is of extreme importance to palpate the glands of this area to be sure that there is no glandular involvement. Radiate on *least* suspicion of gland involvement. Practically all cases are now radiated — radium preferred.

If the lesion involves a considerable part of the lip, infiltrating deep into the lip but no palpable glands the method of choice would be wide excision of the lip with thorough radiation of lip and submental region by radium and later a plastic operation to repair deformity of lip. Object is to destroy cancer first, regardless of deformity — later take care of the deformity.

With a large area of involvement and destruction of large part of lip and with glands involved the problem becomes more complicated — the usual procedure being destruction or dissection of entire lip and part of cheek by cautery dissection of glands of neck by cautery, if possible, or else by dissection and this followed by extension radiation, wound allowed to granulate. When the cancer has reached this stage there will be a marked deformity so that it may require several plastic operations to overcome the defects remaining after the treatment. When these drastic methods must be used one can readily see how it would be possible to fail to remove every bit of malignant tissue so that it is not surprising that a certain percent of these advanced cases have recurrences. But, the percentage of cures are high enough to warrant using these drastic measures.

When there is a bilateral involvement of the deep glands of the neck and chest, the case becomes practically incurable — radiation alone retards the progress and seems to give some relief — otherwise, the only thing that can be done is alleviation of pain. At the angle of mouth and with much destruction of cheek, the operation must be very wide and the deformity is more difficult to correct.

Whenever dissection by cautery can be done, it is better to use cautery even along vascular tracts.

In conclusion, I want to reiterate that the prognosis in these cases depends entirely on the time when treatment is instituted and the stage of the lesion — the earlier and the less advanced, the better the prognosis.

Many months ago the Army assigned a group of eminent psychiatrists to determine the manner in which to select soldiers for duty in various sectors of the fighting fronts. The Army wanted to know the best way of determining which soldiers, for instance, should be sent to Iceland, and which soldiers would be more effective in desert warfare . . . . The psychiatrists met with a Harvard group and a series of experiments were made. After many tests the learned professors made their report. . . . The best way of determining whether a soldier is more effective in the desert or in the north, they reported, was to ask each soldier: "What kind of weather do you like — warm or cold?"

—*Journal American Medical Association.*

Medically Described

A patient who complained of digestive troubles was told by a specialist that he was drinking too much and would have to knock off.

"Well," said the patient, "what am I to tell my wife?"

The doctor thought for a few minutes, then said: "Tell her you are suffering from syncopation. That will satisfy her."

The patient did as he was told. "What is syncopation?" asked his wife.

"I don't know," said the husband, "but that's what he said."

When her husband had gone out the wife looked up the word in the dictionary, and found that it meant: "Irregular movement from bar to bar."

Physical Medicine Abstracts

John S. Coulter, M.D.

BICIPITAL TENOSYNOVITIS

Robert K. Lippmann, M.D., New York City
In NEW YORK STATE JOURNAL OF MEDICINE, 44;90;2239
October 15, 1944

Periarthritis, now more generally known as frozen shoulder, was originally described by Duplay in 1898 and so was removed from the vague classification of arthritis. Duplay ascribed the pain and stiffness that characterize the condition to an adhesive inflammation of the subacromial bursa and recommended brisement force for its cure. This concept and therapeutic approach have persisted for almost fifty years in spite of meager pathologic support. Our surgical studies, as reported in the Archives of Surgery, have revealed subacromial bursa inflammation in only a few of these cases. Instead tenosynovitis of the long biceps tendon and sheath was consistently encountered. This present paper summarized these studies and their clinical application.

Symptoms: The typical case of periarthritis, or frozen shoulder, commences with a mild ache in the shoulder or arm, which grows inexorably worse and is accompanied by progressive stiffness. The pain grows in intensity, becoming almost insufferable, and the stiffness slowly increases to the point of almost complete scapulohumeral fixation. After months of growing distress (often increased by scalene spasm and pain down the arm), the pain starts to abate and shoulder motion begins to improve. Undulant progress continues until the shoulder is again clinically normal. During the period when the disease is progressing, the pain dominates the picture. In the period of improvement, stiffness is the most prominent complaint.

SUMMARY

The typical clinical aspects of periarthritis, or frozen shoulder, are reviewed, with emphasis on the fact that, though its duration is unpredictable, the condition almost invariably terminates spontaneously in complete recovery.

Surgical investigation on more than 30 cases of frozen shoulder has revealed that at least in most instances the subdeltoid bursa and underlying musculotendinous cuff are not involved and that, instead, tenosynovitis of the long biceps tendon and sheath is consistently encountered.

Adhesive tenosynovitis extends from the sheath into the outer quadrant of the shoulder joint proper, but the entire inflammatory process subsides spontaneously when the tendon becomes firmly attached to the bicipital groove and its motion is so obliterated.

The pathologic sequence underlying periarthritis provides a guide for the administration of conservative therapy and suggests a simple surgical approach when more rapid cure is desired.

RECENT EVOLUTION OF COLD AS AN ADJUNCT TO SURGERY

Robert T. McElvenny, M.D., Chicago
In ARCHIVES OF PHYSICAL THERAPY, 25;10;602, October 1944

During 1941 I presented a case of bilateral traumatic amputation through the thigh which was treated with chipped ice. In that paper another case was cited of gangrene of the leg

treated by cooling with ice and tourniquet, followed by amputation through the thigh with no anesthetic used except chilling. In the latter case operation was performed by Dr. McMahon at the Boston City Hospital during the summer of 1939. To my knowledge this patient was the first human being to be subjected to this procedure.

SUMMARY

The use of cold as a therapeutic agent has wide application. Little is known of the effect of cold on tissue from a pathologic and a physiologic point of view.

In this article an attempt has been made to set forth certain uses for cold as a therapeutic agent.

It is believed that cold therapy is here to stay as an adjunct in the treatment of various conditions, but just where its greatest value will lie only the future can determine.

The machine for cooling super-ice is illustrated (fig. 1) along with a model of some of the various packs containing super-ice (fig. 2). These packs may be used alone or in conjunction with ice. They have been fashioned to fit all parts of the body.

A few uses for super-ice in the medical field have already suggested themselves, for example in packs for the body and to prolong the efficiency of ice in such mechanical apparatus as oxygen tent equipment. Investigation of these uses has been begun but has not progressed far enough to warrant definite statements.

ARTIFICIAL RESPIRATION — MANUAL AND MECHANICAL

In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 126;13;835
November 25, 1944

In all cases of asphyxia it is of paramount importance that artificial respiration be administered immediately. Loss of a minute may mean the difference between life and death. There is little hope of reviving a victim who has ceased to breathe for more than five to seven minutes and even less chance if he has been in a state of apnea for more than ten minutes. Effective artificial respiration may be applied by the acceptable manual methods — Schafer prone pressure and Howard-Silvester methods — or by mechanical means — respirator or resuscitator. The inhalator is a valuable adjunct to manual methods of artificial respiration. One disadvantage to mechanical apparatus, either resuscitator or inhalator, is that it is not always on the scene of an accident and precious first minutes or seconds may be lost waiting for its arrival.

All rescue crews, and also the public, should be taught a correct method of administering manual artificial respiration. The one most generally used is the Schafer prone pressure method, which may be administered effectively by one person.

In 1932 Dr. F. C. Eve of Hull, England, described a new method of artificial respiration which is unlike all previous methods mentioned. It is a rocking method, and the force of gravity causes the abdominal organs to shift, thus moving the diaphragm in and out like a bellows.

Inhalators provide an atmosphere of oxygen and carbon dioxide gas mixture slightly higher than the atmospheric pressure around the mouth and nose of the victim and are used in conjunction with an approved method of manual artificial respiration.

Resuscitators create positive and negative pressure by means of a mechanical appliance operated by the energy of the stored gas merely positive pressure only.

THE BEVERIDGE REPORT (Continued)

tice will still exist for those who wish to purchase it. Inasmuch as England already has a form of state controlled medical practice, probably most physicians would be employees of the state health department, presumably upon full time salaries. The practice of medicine in the United States would be limited to a comparatively few.

The Report mentions but carefully avoids the issue of post war pensions for veterans and those who return from the present conflict. This would suggest that the chairman has political ideas.

The recipients of these proposed benefits, and those who are to administer them (social workers, nurses, physicians and others) considering this document should evaluate the cost as well as the benefits. It is obvious that cost is not limited to dollars and cents alone, but includes restrictions in freedom of activity, which has been fundamental in American living.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank F Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

NUTRITION IN INDUSTRY

Any practical plan for helping solve the problems arising in industrial nutritional service is always a forward step. Massachusetts has come to the fore in helping solve some of these problems. The following article by Mrs. Quindara Oliver Dodge is well worth careful study.

The average American worker is no longer solely interested in the size of his take-home pay envelope. He wants to LIVE as well! There is increasing evidence that he wants the satisfaction that comes from work enjoyment made possible by good plant working conditions and good employee morale. He wants to leave work with a margin of health buoyancy that permits a similar enjoyment of family and life off the job instead of being excessively fatigued and drained dry of all interest at the end of a working day. Along with this trend of desires among workers, the rank and file of Americans are also becoming increasingly aware of the significance of the role good food can play in helping them realize these objectives in better living.

IMPORTANCE OF IN-PLANT FEEDING

In-plant feeding is one of the means by which industries can anticipate this changing worker attitude toward living, since it can be one of the important means of achieving improved working conditions, improved employee morale, and job satisfaction. When these conditions exist in the plant, worker absenteeism and turnover are lessened and maximum production output so essential to full prosecution of the war results.

Under today's conditions of work and living, war workers may be caught in situations that make it difficult and sometimes almost impossible to supply themselves with the nourishing food they need. The needs of the war worker, both man and woman, for better nutritious food and improved health have not been lost on management and explain why in-plant feeding in industry expanded so rapidly this past year from less than 20 per cent of industrial workers receiving this food service before Pearl Harbor to 35 per cent at the end of 1943, or in actual numbers, 6.5 million workers.

The goal of the War Food Administration for in-plant feeding in 1944 is 12 million workers. The attainment of this goal on a national scale will prove completely effective in proportion as the day-by-day operation of each plant cafeteria typifies sound nutritional practices, which are integrated with an informed and practical in-plant nutrition education program in which workers and management alike take an active part. We know that to assure healthful nutritious meals on the job which adequately supplement similar quality meals eaten at home it is important that the worker shall want to select the right type of food. This requires education. Lacking such knowledge and desire on the part of the worker, the only other alternative is for industry to supply meal combinations that are scientifically planned to meet his nutritional needs and, by sound merchandising practices, to guide his selection. This adds one more burden to the already busy cafeteria manager with the responsibility to keep all costs in line on a low-profit margin basis and all guests satisfied regardless of limited food supplies and cafeteria employees who come and go.

Where the health and efficiency of the individual is of prime consideration, as it is in in-plant feeding, the plant cafeteria must be administered scientifically. This requires the application of modern scientific management principles and the sciences of foods and nutrition. A cafeteria director may ably apply the fundamentals of management, but may or may not have knowledge and skill in applying the sciences of foods and nutrition, since these are comparative newcomers to the food service field.

The administrative dietitian trained and experienced in management and foods and nutrition has been so essential to the war effort that our armed forces have depleted the civilian supply of such dietitians to a point where both industry and institutional or commercial demands must be met in many cases by other means for the duration.

Reprinted from the August 1944 issue of "INDUSTRY" Magazine . . . Official publication of the Associated Industries of Massachusetts.

A.I.M. OFFERS NEW SERVICE

The preparation of a Menu and Nutrition Service designed to give the harassed plant cafeteria manager a sense of security with respect to nutrition and to reduce time needed for planning, in order to increase available time for supervision of green and inefficient employees, is the Associated Industries of Massachusetts' answer for Massachusetts industries.

It is expected that the first issue will be distributed about September 1, one week before the date for which the material is planned for use in industrial cafeterias. The Service is prepared weekly by the Sub-Committee on Industrial Nutrition of the Massachusetts Committee on Public Safety, in cooperation with Associated Industries, the Women's Educational and Industrial Union, and the Massachusetts Division of occupational Hygiene.

During the developmental stages of the trial period, the Service will be successfully perfected in proportion as those who use it feel free to write the editor of INDUSTRY regarding questions its use has brought to mind, snags they run into, and the reactions of cafeteria employees and war workers to the Hearty Luncheon Specials. Any industry whose top management instructs their cafeteria director to make a weekly report to the editor on these points will be making an invaluable contribution to the Associated Industries of Massachusetts, to be of concrete, practical help to its members.

One question to which answers would be particularly helpful is the extent to which the Service is used. That is, was the menu for the full week put into use? — the suggested Hearty Luncheon Specials used only? — the box lunches sold at canteen centers? — any standardized recipe prepared? — How satisfactory was the resulting food product and how well liked? Have the types of dishes that you need been selected for standardization? Was the marketing or pricing or rationing data of value? Did you get any ideas from the Service that were applicable to your particular cafeteria situation? What were the parts of the service or its setup that gave these ideas to you?

THE WEEKLY MENU AND NUTRITION SERVICE

The Weekly Menu and Nutrition Service has been set up with all the needs of the war worker and the cafeteria manager in mind. The Service includes the chief tools for scientific administration of the cafeteria carefully integrated with a direct in-plant nutrition education program to be promoted by a Management-Worker Committee.

The Table of Contents includes:

In-Plant Nutrition Program
Nutrition Facts for In-Plant Nutrition Program
Sales Menus, Standardized Quantity Recipes, Calculated Ration Food Allowances, Total Cost of Recipe, and Cost Per Portion
Tabulation — Sizes of Service Portions and Recipe Yield for 100 Portions
Dietary Calculations for Daily Hearty Luncheon Specials
Wholesale Food and Market Situation — Massachusetts
Production Menu for Week
Directions for Use of Service

PREPARATION OF THE MENU AND NUTRITION SERVICE

The preparation of the weekly Service is based upon a year's work by the members of the Sub-Committee on Industrial Nutrition. The progressive development of the work proceeded through four main stages.

First, management surveys of representative industrial cafeterias in Massachusetts, made by members of the Sub-Committee on Industrial Nutrition, and inquiries reaching the chairman disclosed the need for the information contained in this Service.

Second, preparation of the basic material needed for making the Service available was carried on, under supervision of the Sub-Committee on Industrial Nutrition, by special committees of the Massachusetts Dietetic Association, as organized by its President. These committees began working in November, 1943, and completed their projects in June, 1944. The work involved active participation by some 35 dietitians with a total outlay of over 1000 hours of personal time spent, voluntarily taken from time normally available for their recreation and relaxation as a concrete contribution to the war effort.

Third, calculation of nutrient equivalents was made by the Simmons College senior students in Institutional Management for each of the quantity recipes that had been prepared by the recipe committee of the Massachusetts Dietetic Association.

Fourth, the Associated Industries of Massachusetts financed the cost of printing and mailing the trial issues and the full-time services of an administrative dietitian of superior ability and extensive experience to work with the Sub-Committee on Industrial Nutrition in whipping the Service into its final shape. The Women's Educational and Industrial Union provided office space and equipment and supplies, telephone and secretarial assistance.

Qualifications of education, training, experience, and personal attributes were set very high for this position of a full-time staff member of the Sub-Committee. This standard was deemed expedient to guarantee the accuracy and practicality of the weekly Service, and so that the administrative dietition might later serve as a specialist qualified to make management surveys of industrial cafeterias and be prepared to answer any questions from Massachusetts industries on the subject of cafeteria management or the use of the Menu and Nutrition Service.

The fact that the Executive Committee of the Associated Industries saw fit to support this activity for its initial trial period and make the Menu and Nutrition Service available to Massachusetts industries is an indication of the value of the material in the first week's Menu and Nutrition Service, which will be distributed a week before the Service is scheduled for use.

The complete Service, with a copy of this issue of "Industry," should be sent at once to the cafeteria manager, who will need the intervening week to be-

come familiar with its possibilities, to calculate market orders, and complete other essential planning.

The detailed description of the Service that hereafter follows should preferably be read with a copy of the first week's Service at hand.

WEEK'S PRODUCTION MENU

The production menu for the week is set up on one sheet of paper to show the seventeen menu items planned each day for Monday through Sunday. These items include one juice, one hearty soup, one meat, a meat extender or alternate, potato, two vegetables, a small salad or relish, one main dish salad, bread or rolls, one meat sandwich, one meat alternate sandwich, two fruits, fresh, frosted, canned or dried, a pudding, a cake or cookies, one ice cream, two pies, and beverages. Items in each of these listings are so carefully planned that in reality, although the cafeteria menu as a whole is noticeably shortened, many palatable and nutritious combinations can be selected by the worker as he passes along the counter.

These items for each day of the week are planned to help insure predictable costs, control food quality, simplify preparation and service, reduce waste of materials, equipment, and fuel and employees' time, take account of prognostication for surplus or scarce food supplies, and the marketing and transportation problems in general.

Undue repetition of menu items is avoided within a given week and from week to week so that interesting variety results, an attractive colorful counter is insured, and guest appetite is stimulated by the display. The menu items of the Hearty Luncheon Special are starred on each day's listings of the production menu; also, a selection from this listing is made at the bottom of the page to show a possible nutritious box lunch to be sold from canteen centers in the plant or to be given out as "Box Lunch Suggestions" to encourage workers to bring good lunches from home.

The production menu is the basis for the planning that has to be done by the cafeteria manager before the menu can be put into effect. It is the basis for the market order, the employee schedules, the food preparation and food service, as well as cleaning and sanitary control. A careful study of the production menu when it is first received, while keeping in mind available clientele, the equipment, utensils, and serving dishes, will enable the manager to decide how many of the daily menu items are practical for a particular cafeteria situation. One manager may only serve the Hearty Luncheon Special; another, serve the juice or soup, a sandwich, a pudding or pie, and a beverage; still another, serve half the items listed. In any event, the basic production menu lends itself to adaptation to practically any type of in-plant food service and to any situation of equipment, cafeteria personnel, or food refrigeration or transportation.

This menu also provides the foundation for cost control and sound merchandising practice.

DAILY SALES MENUS

The merchandising or sales menu for each day of the week lists a Hearty Luncheon Special priced to sell at 50c, except on Sunday when the sales price is 55c, that provides with natural foods one third of the day's nutritive essentials. The yardstick of nutritional adequacy is the "Recommended Dietary Allowances for Specific Nutrients," Food and Nutrition Board, National Research Council, as determined for a moderately active man and as printed in the March issue of INDUSTRY. In order to make these calculations and to plan luncheon combinations with a raw food cost percentage to sales price of 55-60%, quantity recipes were calculated and tested in two large group feeding departments.

The size of the portions based on the above assumptions are generous. These may be adjusted up or down by the cafeteria director in the individual plant to be adapted to the serving utensils and dish sizes, and to line up with the pricing policy already in existence. It is suggested that certain menu items should be available in two size portions to provide greater menu choice by the employee. For example, take the item soup; a 4 ounce portion in a cup would be adequate with a hearty meal, and a 12 ounce portion in a bowl could serve for the main dish of a lighter luncheon selection.

The Daily Sales Menu, in addition to the Hearty Luncheon Special, also includes a Light Luncheon and a Salad Luncheon suggestion on a single sheet. These two luncheons have not been priced, but have been carefully planned for color, texture, and taste appeal, and high nutritive value for that particular type of meal combination. These two combinations do not guarantee to provide one-third of the day's nutritive essentials.

The Monday menu of each week's Service lists under "Other Suggestions" the remainder of the menu items that appear for that day on the Production Menu. The Sales Menu for Monday thus gives a possible effective set-up for menu listing on a cafeteria menu display board that could be followed for each day's items during the remainder of the week; however, to reduce pages for the balance of the week, the Service is set up with two day's specials on a single page, and "Other Suggestions" for each day omitted.

At the foot of each Sales Menu, the approximate totals for the Hearty Luncheon Specials, based on 100 portions of the standardized quantity recipes, are given for Rationed Food Allowances and for the calculated raw food cost percentages.

STANDARDIZED QUANTITY RECIPES

Each standardized quantity recipe was calculated to serve approximately 100 portions. Mathematical accuracy and practicality of technique were checked before the recipe was actually prepared to test recipe ingredients and terminology and to determine the quality of the final product. The resultant food product was judged by a recipe-testing committee of graduate dietitians who ate a standard portion of the product, scoring it for quality, color, flavor and seasoning, texture or consistency, and palatability. The 100-portion recipe was, at the same time, prepared for use in serving as many as 1000 or more guests — men and

women — and its popularity and acceptance by the guests carefully noted as a final check for use in this Menu and Nutrition Service. Recipes were tested by the staffs of the Dining Halls, Graduate School of Business Administration, Harvard University, and the Nutrition Department, Massachusetts General Hospital, Boston.

The total raw food cost of the recipe and cost of a portion were calculated, based upon typical wholesale market prices in effect in Boston in August. Rationed Food Allowances that would be required for the ingredients in the recipe were determined according to July-August OPA Food Allowances for Group 4 requirements.

A summary tabulation of the sizes of individual service portions taken from the standardized recipes for each food item that has been planned in all the Hearty Luncheon Specials for that week has been made. This summary also includes the total amount of the prepared product necessary to serve 100 standardized portions. This tabulation of sizes of service portions and yield amounts will facilitate the use of the Production Menu and simplify planning by the cafeteria director.

Dietary Calculations of standardized quantity recipes used in the daily Hearty Luncheon Specials were calculated using "Food Values of Portions Commonly Used," Bowes and Church, 4th edition, for the source of data. When data for a given food was not found in Bowes and Church, the 1st edition of "Food Values in Shares and Weights," Clara Mae Taylor, was used. The nutritional adequacy of the daily Hearty Luncheon Specials was then calculated. After the total food value of each Hearty Luncheon Special was determined, the value for each nutrient — calories, protein, calcium, iron, Vitamin A, Thiamine (B1), Riboflavin, and ascorbic acid — was checked against the amounts recommended as necessary for good nutritional health for a moderately active man of 154 lbs. (70 kg.) by the Committee on Foods and Nutrition, National Research Council, in "Recommended Daily Allowances for Specific Nutrients."

In the event that it was found that the Hearty Luncheon Special failed to meet one-third of the day's nutritional needs for any one of the specific nutrients, a change was made in the food items of the Special to bring it up to the total nutrient value required for the luncheon.

Values for the following nutrients were not calculated — fat, carbohydrate, phosphorus, Vitamin D, and Niacin — neither for standardized recipes, nor for the the Hearty Luncheon Specials. Compilation of scientific results show that carbohydrate and fat are probably adequate if protein is adequate in kind and amount and that, if protein and calcium are adequate, phosphorus probably is also. The chief source of Vitamin D is sunshine and cod liver oil, since very few foods have it. In the case of Niacin, the standard is not based upon experimental evidence; a good many foods have yet to be analyzed for it; and finally, if Thiamin and Riboflavin are adequate in a meal, scientific evidence to date indicates that Niacin would probably be adequate also.

IN-PLANT NUTRITION PROGRAM

There is no better way to indirectly provide sound nutrition education than by serving quality food in pleasant, sanitary surroundings at a realistic price. This makes the daily operation of the plant cafeteria an important tool for better health and employee morale. But when to this indirect method of cafeteria promotion is added a careful direct program initiated by a plant nutrition committee, which includes film shorts, posters, and pay envelope stickers, then better health by better food really gets under way.

The Menu and Nutrition Service, week by week, develops a practical direct education program as a guide to the activities of the in-plant Management-Worker Nutrition Committee. It also includes reliable nutrition information consistent with proven research developments suitable for posters, use in plant papers, for pay envelope inclusion. It will give, from time to time, the names of effective posters, films, and other nutrition material, and addresses where they can be secured from Federal or state or commercial sources.

There will be a nominal charge of five dollars per week for the Service, based on the actual cost of its preparation. This cost includes the full-time services of an administrative dietitian whose salary has already been allotted in advance by the Executive Committee of Associated Industries, plus the actual cost of multigraphing and postage on the weekly mailings. The services of the various members of the Subcommittee on Industrial Nutrition and the state agencies assisting are, of course, donated without charge or fees of any kind.

Any industrial plant in Massachusetts, or for that matter, any Massachusetts employer of large groups of people, operating a company in-plant feeding system, may take advantage of the Service. It is not limited to A.I.M. members. The minimum trial period for those who wish to avail themselves of the Service is three months.

If a sizable number of plants ask for and take the Service, the price per week will be substantially reduced. The plan is a non-profit one, and aims simply to provide better meals for more industrial employees, through the latest methods of scientific management applied to large group feeding.

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES

By
Howard Wakefield, M.D., Chairman
Edwin F. Hirsch, M.D., Pathologist
ST. LUKE'S HOSPITAL
Chicago

1. CHRONIC RHEUMATIC AND SUBACUTE THROMBOULCERATIVE ENDOCARDITIS OF THE MITRAL AND AORTIC VALVES OF THE HEART.

A white woman aged 45 years entered St. Luke's Hospital on August 18, 1944 because of a fever of undetermined origin. Three months before, she had gone to Mexico for a short visit and there began to have a fever which ranged between 99° F. and 103° F. She had malaise, pain in her finger tips and eyes with the fever, and these were present when she entered the hospital. Several episodes of fever with diarrhea and continuing about a week had occurred during the past three years. There had been considerable loss of weight in three months and also some difficulty in speech. When admitted she was emaciated, her blood pressure was 104/60 mms. Hg., the pulse was 90 and respirations 16 per minute, and the temperature 99.8° F. The lungs had no unusual findings, the heart enlarged to the left had an apical systolic murmur and frequent extrasystoles. The abdomen had nothing unusual. The blood contained 3,200,000 erythrocytes and 8,450 leucocytes per cu. mm. and 9.6 gm. percent hemoglobin. The Widal and Abortus-Melitensis agglutination tests of the serum, the Brucella and tuberculin tests of the skin were negative. The sedimentation rate of the blood was increased (17.5 mm.), but the sugar, uric acid, total proteins and albumen-globulin ratio were unchanged. Many bacteriological and other examinations of the stools revealed nothing significant. The basal metabolic rate was 10 +. Pelvic and proctoscopic examinations disclosed no diseased structures and nothing significant was found in the urinary tract. An electrocardiogram on August 25 disclosed an auricular fibrillation. The patient's fever ranged from 99.8° to 101° F. She had a severe attack of tachycardia on September 18, 1944, became chilly and perspired freely. She grew worse and despite quinidine, oxygen and digifolin therapy died on September 20, 1944.

The main portions of the anatomic diagnosis of the postmortem examination (trunk) are:

Chronic rheumatic and subacute thromboulcerative endocarditis of the mitral and aortic valves of the heart;

Dilated chambers of the heart;

Ruptured, healed and contracted chorda tendinea of the posterior mitral leaflet of the heart;

Fibrous changes of the leaflets of the tricuspid valve of the heart;

Partially healed anemic infarct of the spleen;

Petechial hemorrhages of the epicardium, the pelves of the kidneys, and the mucosa of the small bowel;

Atelectasis of the lower lobe of the right lung;

Right chronic fibrous pleuritis;

Slight atherosclerosis of the aorta.

The body weighed 112 pounds and was 166 cm. long. The dilated heart weighed 370 gm.

There were no changes in the root of the pulmonary artery or in the leaflets of the pulmonic semilunar valve. The circumference of the pulmonic ring was 8 cm., the length of the right ventricle from the pulmonic leaflets to the apex was 9 cm. and from the tricuspid ring to the apex it was 7 cm. The myocardium of the right ventricle near the septum in front was 4 mm. thick. The foramen ovale was closed. The circumference of the tricuspid ring under slight tension was 15 cm. The free margin of the leaflets had slight fibrous tissue thickenings. The lining of the right and left auricles, auricular appendages and ventricles was smooth and glistening. The circumference of the mitral ring under slight tension was 12 cm. Both mitral leaflets were thickened by fibrous tissues. On the auricular surface of the free margin of the posterior leaflet was a granular hemorrhagic vegetation 1.5 cm. long, 0.7 cm. wide and protruding 4 mm. Opposite this on the anterior leaflet was a similar vegetation, 5 mm. above the free margin 6 mm. long, 5 mm. wide and projecting 5 mm. At the tip of the papillary muscle was a round fibrous nodule 2 mm. in diameter and beneath the posterior leaflet near the attachment was a similar nodule of fibrous tissue 4 mm. in diameter. These corresponded to the attachment and insertion of a ruptured and healed chorda tendinea. (Figure 1.) The length of the left ventricle from the mitral ring to the apex was 9 cm. and from the attachment of the aortic leaflets to the apex it was 11 cm. The circumference of the aortic ring was 9 cm. The free margin of the leaflets of the aortic valve was thickened slightly by fibrous tissues and the posterior had a loosely adherent red granular vegetation 2 mm. in diameter. The myocardium of the lateral wall of the left ventricle ranged between 1.2 and 1.7 cm. in thickness. Surfaces made by cutting were red-brown fibrillar tissues with cloudy swelling. The lining of the coronary arteries was smooth, the channels widely patent. The hyperemic kidneys weighed 130 and 125 gm. and had no other significant changes. The spleen weighed 100 gm. In the anterior edge was a depressed infarct 1.5 cm. long, 4 by 3 mm. in its other dimensions. Cultures of the heart's blood and pericardial fluid were sterile.

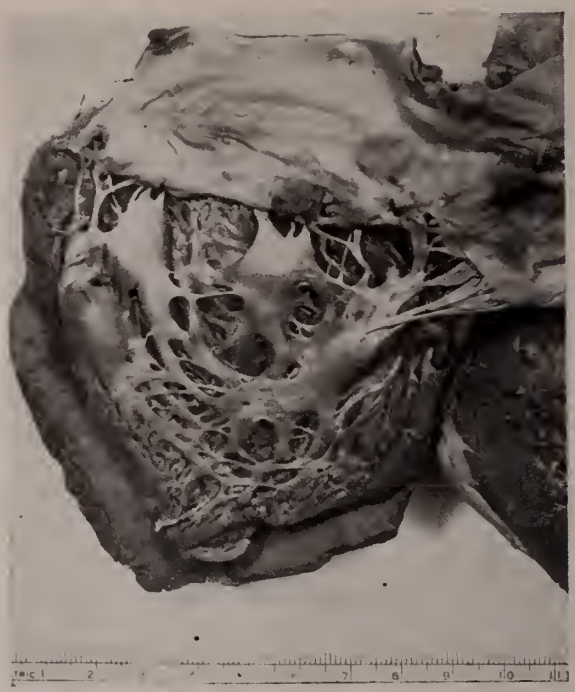


Figure 1. Case 1. Photograph illustrating the chronic fibrous and subacute thromboulcerative endocarditis of the anterior and posterior leaflets of the mitral valve. Note the small fibrous nodule at the tip of the papillary muscle.

The liver weighed 1525 gm. Histologic examination of the myocardium demonstrated focal (embolic) fibroplastic myocarditis and along the blood vessels scattered collections of large mononuclear phagocytes (Aschoff nodules).

COMMENT

The postmortem examination disclosed that the cryptic sources of the fever and other vague clinical symptoms of this patient were associated with an endocarditis of the mitral and aortic valves. The slowly progressive disease had existed for considerable time and the lesions of the mitral valve had evidence of reparative tissue reactions. The rounded scar tissue nodules of the posterior leaflet and papillary muscle were fibrous residues of a destroyed chorda tendinea.

2. CARCINOMA OF THE OESOPHAGUS WITH TRACHEAL FISTULA AND TUBERCULOUS BRONCHOPNEUMONIA.

A white male aged 64 years entered St. Luke's Hospital on August 8, 1944 because of progressive difficulty in swallowing, a loss of 30 pounds in weight and weakness during five months. He was emaciated, but the blood and urine examina-

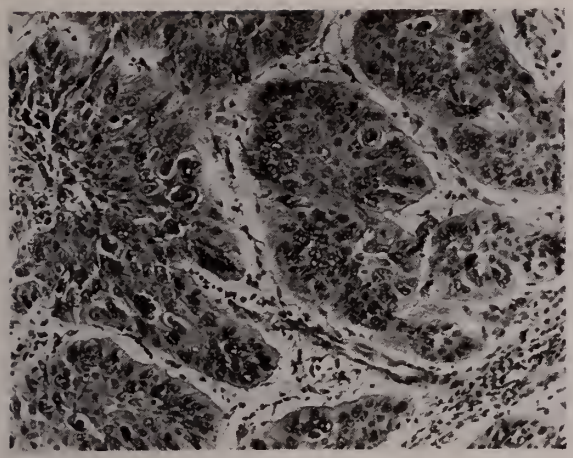


Figure 2. Case 2. Photomicrograph illustrating the squamous cell carcinoma in the biopsy tissues removed from the oesophagus. (x-198)

tions revealed no changes. Esophagoscopy disclosed an ulcerated lesion in the upper portion of the oesophagus which a tissue examination established to be squamous cell carcinoma. (Figure 2.) The patient was discharged from the hospital and received roentgen ray therapy. His dysphagia progressed and he returned to the hospital September 5, 1944 unable to swallow. His lungs had rales and he had a fever of 101° F. On September 19, a gastrostomy was done, pneumonia developed and a roentgen ray film of the chest indicated an extensive tuberculosis of the lungs. The patient died September 30, 1944.

The essentials of the anatomic diagnosis are:

Ulcerated carcinoma of the upper third of the oesophagus with perforation (fistula) of the trachea;

Metastatic carcinoma of the peritracheal and mediastinal lymph nodes;

Extensive bilateral tuberculous bronchopneumonia;

Bronchiectasis of the lungs;

Chronic catarrhal and acute exudative bronchitis;

Draining surgical gastrostomy of the stomach; etc.

The body weighed only 88 pounds and was 167 cm. long. Both pleural spaces were obliterated by fibrous tissues. On the anterior wall of the oesophagus 4.5 cm. below the level of the vocal cords was an ulcerated carcinoma 3.2 cm. long (Figure 3) and 2.5 cm. wide with a fistulous opening into the trachea in the center 3 mm.



Figure 3. Case 2. Photograph illustrating the ulcerated carcinoma of the oesophagus with perforation into the trachea.

in diameter. There were several lymph nodes in the tissues around the oesophagus opposite the ulcerated carcinoma. The right lung weighed 600 gm., the left 800 gm. Both lungs were extensively consolidated. Surfaces made by cutting had granular grey-yellow regions distributed around the bronchioles 0.5 to 1.5 cm. in diameter. The intervening lung tissues were hyperemic. Examinations of the other viscera had minor changes and incidental to the carcinoma. The ulcerated lesion of the oesophagus in histological preparations was a squamous cell carcinoma. Regional lymph nodes had caseous tuberculosis and the lungs an extensive tuber-

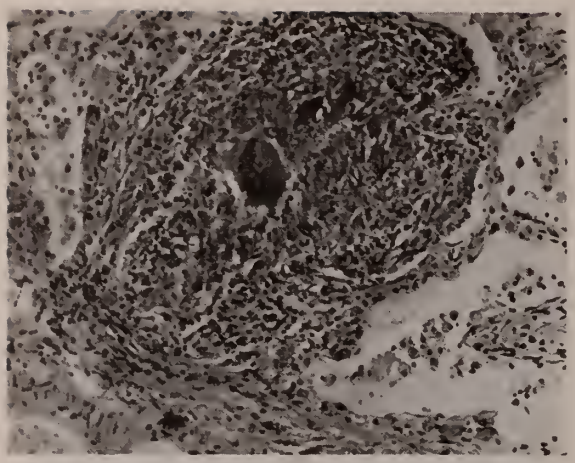


Figure 4. Case 2. Photomicrograph illustrating the tuberculous bronchopneumonia of the lungs. (x-198)

culous (Figure 4) bronchopneumonia.

COMMENT

The clinical symptoms of dysphagia and loss of weight are common with carcinoma of the oesophagus. This cancerous growth caused a tracheal fistula and course of disease was complicated by an extensive tuberculous bronchopneumonia of the lungs.

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3. CARDIO-RESPIRATORY COMPLICATIONS WITH CHRONIC TUBERCULOSIS OF THE LUNGS.

A white male aged 52 years entered St. Luke's Hospital on August 22, 1944 because of severe dyspnoea for six weeks and fatigue for several years. In December 1943 he had pneumonia but recovered promptly. For a week in June 1944 he had diplopia and a tendency to veer to the left while walking. He was treated in a hospital and while there had an episode of severe dyspnoea following a spinal puncture. No diagnosis was made at this time. Later in the summer a similar episode of dyspnoea resulted in a short stay in a hospital. He had been short of breath for many years. His blood pressure was 204 mm. Hg. systolic and 114 diastolic, the pulse and respiration rates per minute were 98 and 22 respectively, and his rectal temperature was 100° F.; he had a left nystagmus. The right side of the chest was retracted and flattened, had limited expansion, decreased tactile fremitus, dullness with percussion, and decreased breath sounds. The left lung had many rales, the enlarged heart had a fast rate, and the liver extended below the costal margin. The blood had 4,720,000 erythrocytes and 12,950 leucocytes per cu. mm., the hemoglobin was 13.6 gm. percent. The non-protein nitrogen content was unchanged. The Kahn test of the blood was negative. The urine had over 50 mg. percent albumen. The sedimentation rate was increased (20.5 mm.). The electrocardiogram demonstrated tachycardia and changes indicating myocardial damage. Roentgen films revealed a calcified right empyema and retraction of the chest. Some infiltrations of the left lung were considered inflammatory. The patient was emotionally unstable, his dyspnoea grew worse and during the last week of life he required continuous oxygen therapy and diuresis at intervals. Death occurred October 2, 1944.

The essentials of the anatomic diagnosis of the postmortem examination (trunk) are:

Chronic · right obliterative and calcified fibrocaseous tuberculous pleuritis with deformity of the chest;

Fibrocaseous tuberculosis of the tracheobronchial lymph nodes;

Solitary nodular encapsulated fibrocaseous tuberculosis of the lower lobe of the left lung;

Acute fibrinous and chronic obliterative fibrous pericarditis;

Hypertrophy of the myocardium of the right ventricle of the heart;

Encapsulated nodular tuberculosis of the liver and spleen;

Atherosclerosis of the aorta and its main branches.

The body weighed 110 pounds and was 165 cm. long. A large left duodenojejunal pouch 10 to 15 cm. in diameter and extending to the left behind the descending colon contained loops of small bowel, not adherent to the lining. The contracted right lung was bound firmly to the mediastinum and parietal pleura. There were no adhesions between the emphysematous left lung and the chest. The pericardial sac was obliterated in front by fibrous and behind by fibrinous adhesions. The epicardium opposite the fibrinous adhesions was granular and hyperemic. (Figure 5.) A small amount of blood stained pericardial fluid was in the interstices. The calcified plaque in the right parietal pleura was 21 cm. long, 10 cm. wide



Figure 5. Case 3. Photograph of the pericardial surface of the opened heart illustrating the fibrous and fibrinous pericarditis.

and 2 cm. thick. The contracted right lung weighed 580 gm. The pleura posteriorly and laterally was thickened and calcified. In a crevice between it and the parietal pleura was soft caseous material. Medially the torn adhesions were fibrous. The lining of the bronchus was markedly hyperemic, the lumen dilated and the wall thickened. The entire lung was subcrepitant and atelectatic. The left lung weighed 800 gm., the parietal pleura was smooth. The lung tissues were hyperemic and subcrepitant. An apical fibrous scar was 4 by 3 cm. and 1 to 2 mm. thick. On the medial surface of the lower lobe was a retracted scar and beneath this a fibrocaseous node 1.4 cm. in diameter. Nearby and extending linearly toward the hilum were several other grey nodules 2 to 4 mm. in diameter. Surfaces made by cutting were hyperemic, subcrepitant tissues moist with large amounts of blood stained fluid. The tissues in the posterior and inferior portions were finely granular. The heart weighed 505 gm. The pulmonic leaflets were thin, the ring under slight tension was 9.5 cm. in circumference. The length of the right ventricle from the pulmonic leaflets to the apex was 9 cm. and from the tricuspid ring to the apex it was 7.5 cm. The myocardium of the right ventricle near the septum in front was 1 cm. thick. The lining of the right and left auricles, auricular appendages and ventricles was smooth. The tricuspid ring was 14 cm. in circumference, the mitral ring 11.5 cm. The left ventricle from the mitral ring to the apex was 8.5 cm. and from the aortic leaflets to the apex 9.5 cm. There were fibrous and fatty changes of the anterior mitral leaflet. The circumference of the aortic ring was 7.5 cm., the leaflets were thin, and the right cusp was fenestrated. Surfaces made by cutting the myocardium had fatty changes but no infarcts. Histologically, the lungs and tracheobronchial lymph nodes had focal fibrocaseous tuberculosis. There was marked fibrous induration, chronic catarrhal bronchitis and chronic passive hyperemia of the lungs. The muscle fibers of the myocardium were hypertrophied. Tuberculous lesions were not found in the granulation tissues beneath the fibrinous exudate covering the epicardium.

COMMENT

The clinical symptoms of this patient were mainly cardiac due to resistance in the pulmonary circulation or gas exchange resulting from the chronic tuberculosis of the lungs and the functional embarrassment caused by the chronic fibrous and acute fibrinous pericarditis. The extent of these changes were not fully determined by physical examination although the cardiac symptoms were correctly interpreted as being not due to a primary disease of the heart.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

COOK COUNTY

A letter recently came from Harold H. Hill formerly of Oak Park who is now stationed with the Marines in one of the Pacific Islands. He says "Will you please have the Illinois Medical Journal sent to my present address? It has been following me 'round Robin Hood's Barn. Thank you. I read it avidly. My regards to Doctor Camp, Doctor Hutton and others I knew and worked with." Many Illinois doctors came to know Doctor Hill when he was in charge of the obstetrical post-graduate conferences in the state.

Major Isadore Pilot, MC, is now Chief of Laboratory Service ASF Bruns General Hospital, Santa Fe, New Mexico.

Word has been received of the promotion of Paul Andrew Campbell, Chicago, from Lt. Col. to Colonel.

Lt. (j.g.) Francis Ambrose Laggorio, Jr., of Chicago, battalion surgeon of the 7th marines, 1st division, has been commended for heroism in the bitter fighting on Peleliu Island last September and October by the marines' commanding officer, Lt. Gen. H. M. Smith. The citation says "Lt. Laggorio organized and directed stretcher bearers to the front and to the rear . . . . . He . . . . contributed greatly to the ultimate combat efficiency of the battalion." Lt. Laggorio is a graduate of Dartmouth and Loyola Medical School.

Col. Marion H. Barker, former assistant professor of medicine at Northwestern University, has been awarded the Legion of Merit medal for an "outstanding contribution to medical science during this war." He was cited for his "keen insight in devloping methods of treatment of patients suffering from a strange liver malady." The award was presented by Maj. Gen. M. C. Stayer.

The Chicago News of January 15th carried a story about the 27th Evacuation Hospital, the University of Illinois Hospital, under the command of Col. Charles B. Puestow. The unit landed in south France August 29 and went to work near Aix-en-Provence caring for wounded from Marseilles, Toulon and the entire area. They moved up and have been following the 7th Army ever since. The unit is made up of nine particularly fine surgical teams composed of three surgeons, 12 surgical nurses and five nurse anesthesits. Among the Illinois doctors connected with this unit, in addition to Doctor Puestow, are William G. Gillesby of Effingham, Robert E. Bedard of Kankakee, James W. Lewis of Evanston, Daniel E. Bowers of Peoria, Clifford L. Carter of Ottawa, James H. Cross and Roland R. Cross Jr. of Dahlgren.

KANE COUNTY

Clarence L. Gardner of Aurora has been promoted from Major to Lt. Col.

MC LEAN COUNTY

Seymour Fisher, formerly medical director of the Illinois Soldiers' and Sailors' School in Bloomington, is now executive officer of the Valley Forge General Hospital. He has recently been promoted from the rank of Major to that of Lieutenant Colonel.

GENERAL

COOK COUNTY

Helen M. Kostka who has practiced in Chicago since 1921 has gone to Seattle, Washington where she has become associated with the med-

ical department of the Boeing Aircraft Company.

Lt. Col. Lloyd G. Lewis, MC, Washington, D. C. addressed the Chicago Urological Society on January 25th, subject "Treatment of the Neurological Bladder."

The Baruch Committee on Physical Medicine recently announced the granting of a sum of $185,000 for further advancement of the program in physical medicine and the physical rehabilitation of those disabled in the war. The sum has been divided into seven grants, with the University of Illinois receiving $15,000 for the inauguration of a teaching program in physical medicine at the University's medical school. Other recipients are: The Massachusetts Institute of Technology and the Medical Schools of Marquette University, Harvard, University of Southern California, Minnesota and Iowa.

Seven Chicago doctors have been named members of an advisory council to assist the Hematology Research Foundation in its study of blood disorders.

They are Dr. Raphael Isaacs, head of the hematology department of Michael Reese Hospital; Dr. Louis R. Limarzi, University of Illinois; Dr. Andrew C. Ivy, professor of physiology, Northwestern University; Dr. Ludvig Hektoen, Chicago Tumor Institute; Prof. Anton J. Carlson, professor-emeritus of physiology, University of Chicago; Dr. Italo F. Volini, dean of Loyola Medical School; and Dr. Otto Saphir, pathologist, Michael Reese Hospital.

LA SALLE COUNTY

John W. Howser will present a talk on "Intestinal Obstruction" before the LaSalle County Medical Society at the Kaskaskia Hotel, LaSalle on the evening of March 8th.

LIVINGSTON COUNTY

The Livingston County Medical Society held a dinner meeting December 5th at the American Legion Billet, Pontiac. Watson Gailey of Bloomington spoke on "A Review of Eye Diseases" and H. W. Wellmerling of Bloomington spoke on "Internal Fixations of the Femoral Neck Fractures."

MACOUPIN COUNTY

The Macoupin County Medical Society met on January 30th at the Evangelical Hall in Carlinville. Walter Stevenson, Councilor of the 6th District showed films on his travels in India.

MADISON COUNTY

Madison County Medical Society met on January 5th at the Collinsville Memorial Library, Collinsville. Armand C. Forster, Instructor in Surgery at St. Louis University School of Medicine spoke on "Surgery of the Lower End of the Gastrointestinal Tract."

PEORIA COUNTY

Peoria County Medical Society met on February 6th at the Pere Marquette Hotel, Peoria. Andrew J. Sullivan spoke in behalf of the Association of American Physicians and Surgeons, presenting the purposes and object of the Association in its efforts to combat the socialization of medicine.

VERMILION COUNTY

At a recent meeting of the Vermilion County Medical Society held in Danville, J. Frank Jennings was awarded the 50 year button and certificate of the Illinois State Medical Society after concluding 50 years in the practice of medicine. He made a short address on his outstanding experiences. Dr. Jennings has practiced in Chrisman the past 20 years, coming there from Scottland where he located September 22, 1894 following graduation from Starling Medical College, Zanesville, Ohio, in March of that year.

MARRIAGES

Charles A. Beck to Miss Ruth Brandstetter, both of Chicago, December 10.

Martin Robert Broman, Evanston, Ill., to Mrs. Vivian Lawrence Pratt of Manchester, N. Y., October 15.

Thomas J. Naughton to Miss Elizabeth Roughan McMahon, both of Chicago, November 27.

DEATHS

Raymond Leo Abraham, Chicago; Loyola University School of Medicine, Chicago, 1933; member of the American Medical Association; served an internship at St. Elizabeth Hospital; commissioned a first lieutenant in the medical corps, Army of the United States, on June 3, 1942; later promoted to captain; died at the Charleston port of embarkation, South Carolina, Sept. 27, 1944, aged 38, of coronary thrombosis.

Nathaniel H. Adams, Oak Park; Northwestern University Medical School, 1896. Died January 20, 1945, aged 74.

Junius S. Billings, retired, White Hall; National University of Arts and Science Medical Department, St. Louis, 1896. Had practiced medicine in Athensville before coming to White Hall in 1916. Died January 13th, aged 77.

Edwin T. Black, retired, Hountsville; Rush Medical College, 1881. In 1931, was awarded the "Fifty Year Pin" by the Illinois State Medical Society. Retired in 1941 after 60 years of medical practice. Died December 10th, aged 86 years.

Capt. Walter E. Block, Chicago; Chicago Medical School, 1930. Awarded silver star for heroism in evacuating wounded after the Normandy landing, was killed in action in Germany, December 8, 1944, aged 40.

William D. H. Brown, La Grange, Ill.; National Medical University, Chicago, 1902; died in Chicago December 6, aged 86, of multiple lacerations of the right lung with massive hemothorax due to multiple fracture of the ribs as the result of a fall from a porch.

Howard J. Buchanan, retired, Monmouth; Northwestern University Medical School, 1919. Was representative of the Massachusetts Mutual Life Insurance Company in Monmouth for 17 years. Died following a series of heart attacks, on January 2nd, aged 55.

Robert Irving Bullard, Springfield; University of Pennsylvania School of Medicine, 1903. Medical leader and specialist in eye, ear, nose and throat in Springfield for many years. Was an early organizer of the American Legion following first World War in which he served as a major in the medical corps. Spent 7 years as instructor of nurses. Died December 25th in St. John's Hospital, aged 67.

John A. C. Busby, Oak Park; University of Nebraska Medical School, 1921. Served as executive of the obstetrical staff of West Suburban Hospital. Died of a cerebral hemorrhage, January 5th, aged, 52.

Ira Frank, retired, Highland Park; University of Illinois College of Medicine, 1899. Was ear, nose and throat specialist and on staff of Michael Reese Hospital. Died January 20th at the age of 68.

Rudolph M. Hecht, Chicago; University of Illinois College of Medicine, Chicago, 1933; member of the American Academy of Dermatology and Syphilology and the American Association for the Study of Allergy; served an internship at the Michael Reese Hospital; commissioned a captain in the medical corps, Army of the United States, on Sept. 28, 1942; died in the European theater of operations September 16, aged 38, of injuries incurred in a vehicle accident.

Ato C. Housh, East St. Louis; Missouri Medical College, St. Louis, 1899. As a member of the staff at St. Mary's Hospital, East St. Louis, he served 12 years as historian of the St. Clair County Medical Society and wrote the organization's 78 year history. Was chief of staff at Christian Welfare Hospital. Died January 14th, aged 71.

Harry Lee Howell, Bloomington; Rush Medical College, 1904. Coroner of McLean County; served on the staffs of the three Bloomington-Normal Hospitals. Had practiced medicine 40 years; was naval lieutenant during World War I serving 19 months aboard troop and hospital ships in the Atlantic. Was instrumental in organizing the Bloomington-Normal Health Council in 1940. Helped found the Louis E. Davis post, American Legion and served as its second commander. Died December 16th, aged 66.

Robert McCurdy Kennedy, Elgin, Ill.; Northwestern University Medical School, Chicago, 1938; diplomate of the National Board of Medical Examiners; served an internship at City of Detroit Receiving Hospital, Detroit; formerly a medical missionary to India; commissioned a lieutenant (jg) in the medical corps, U. S. Naval Reserve, on Oct. 27, 1943; drowned at sea when the ship sank in a hurricane in the Atlantic area Sept. 13, 1944, aged 33.

Sigmund Krumholz, Chicago; University and Bellevue Hospital Medical College of New York, 1899. Was instructor in nervous and mental diseases at Rush Medical College from 1901-17; attending neurologist and psychiatrist at Michael Reese Dispensary, 1903-12; associate professor of neurology at Northwestern Medical School from 1917 to 1933. At the time of his death, was professor and chairman of the department of neurology and psychiatry at Chicago Medical School. Died January 26, at the age of 73.

Julius E. Lackner, Highland Park; Rush Medical College, 1910. Senior attending gynecologist and attending obstetrician at Michael Reese Hospital; on staff of Highland Park Hospital. Died following an illness of two months, January 3rd, at the age of 57.

Gayle Harold Laymon, St. Joseph, Ill.; Chicago Medical School, 1934; member of the American Medical Association; served an internship at the South Shore Hospital, Chicago; commissioned a first lieutenant in the medical corps, Army of the United States, on Dec. 28, 1942; began active duty on Jan. 13, 1943; later promoted to captain; died in Kodiak, Alaska, April 9, 1944, aged 42, as the result of cerebrovascular disease.

John Thompson Manierre, Chicago; Northwestern University Medical School, 1894. Was a member emeritus after 50 years active membership in Illinois State Medical Society. Was on staff of Illinois Masonic Hospital. Died on the 75th birthday, January 12th.

Daniel A. Orth, Wheaton; Rush Medical College, 1896. President of the staff of Columbus Hospital. Died, aged 72, on January 3rd.

Emil A. Schlageter, Chicago; Chicago College of Medicine and Surgery, 1914. Supervising health officer of the Chicago Board of Health. Was a Captain in the medical corps in World War I. Died January 18th at the age of 61.

Harry Schultz, Elwood; Chicago College of Medicine and Surgery, 1917. Was first lieutenant in World War I and served as admitting officer at Camp

Dix, N. J. From 1928-39, was in private practice in medical and industrial surgery in Elmhurst. In 1941, was named head of the medical department during the construction of the Kankakee Ordnance works and upon completion of the Elwood plant was named director of the Medical Department. Died of coronary thrombosis, aged 52, December 17th.

William F. Scott, Maywood; Rush Medical College, 1892. Chief of staff and head of the department of surgery at Oak Park Hospital. Started practicing in Marengo, Iowa, but moved soon afterward to Maywood. Died, aged 75 in his home on January 18th.

John N. Volicos, Chicago; National Medical University, Chicago, 1896. First Greek physician to practice medicine in Chicago. Died December 24th, aged 79.

Albert Robert Weinglass, former resident physician at Chicago Memorial Hospital; University of Illinois College of Medicine, 1941. A fellow of Harvard University and engaged in research and teaching at Thorndike Memorial Laboratory. Died January 3rd, age 27 years.

Edward James Wheatley, Danville; Drake University College of Medicine, Des Moines, Iowa, 1910. Was chief surgeon at the National Home for Disabled Volunteer Soldiers in Danville. Died in his home December 30th, aged 64.

AMERICAN LEGION PLANS PROGRAM FOR MEDICAL SERVICE

The American Legion recently announced a program to mobilize the highest medical intelligence of America to advise on the mental and physical health needs of returning veterans. Nine eminent physicians and surgeons were named to a national board that will counsel the Legion in its service to discharged men. They are Col. Leonard G. Rowntree, chief of the selective service division and internationally known authority on glandular disturbances, named as chairman; Major Gen. George F. Lull, deputy surgeon general, U. S. Army, and Rear Admiral William C. Agnew, assistant surgeon general, U. S. Navy, both advisers in general medicine; Col. Esmond R. Long, Office of the Surgeon General, U. S. Army, adviser in pulmonary disease; Capt. Raymond C. Wells, U. S. Navy, assistant chief of the Selective Service Medical Division, adviser in dentistry; Lieut. Col. Louis H. Renfrow, executive officer, Selective Service Medical Division, as assistant chairman of the board; Lieut. Col. Charles W. Mayo, adviser in surgery; Dr. William D. Stroud, professor of cardiology, University of Pennsylvania, adviser in heart ailments, and Dr. Winfred Overholzer, superintendent of St. Elizabeth's Hospital, Washington, D. C., adviser in psychiatry. Particular attention will be given by the board to the handling of psychoneurotic cases.

National Commander Edward N. Scheiberling stated that similar medical advisory groups are projected for each state, and it is planned, as the program progresses, to appoint post surgeons in each community having a Legion post.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

THE AGE OF A MAN

It would seem,
that there is
no escape
from the crowd
that constantly,
and with
much dogmatism,
asserts
and reasserts
that a man
is as old
as his arteries.

Another group
wags its head wisely
and proclaims
in a tone
of finality
and positivity
that a man
is as old
as his kidneys.

And a flock
of pollyannas
cackle at us
in staccato
and cresendo
that we are,
and always will be,
as old as
those with whom
we associate.

And the horde
of persons
who pursue golf balls
over assorted hills
and discover
that by the time
they have reached
the fourteenth hole
the old dogs
begin to
whine and growl.

will assert
that a man
is as old
as his feet.

And the mob
of baseball fans
and fight followers
remind us
with vehemence
and in no uncertain language
that the reason
fighters and ball players
are old men
at thirty-five
is because
the punch has faded
from the old wing
or the underpinning
is faltering under the strain
and for those reasons
a man is as old
as his arm
or his legs.

We also encounter
those hard-headed
two-plus-two persons
who will point
to a birth certificate
or the record
in the family Bible
and will proclaim
in raucous voice
that that is the age;
no younger,
no older,
arguments are not
tolerated.

But fortunately
we have also those
of philosophical mind
and broader mentality
who listen patiently
to all this prattle,
smile indulgently,
carefully evaluate
their physical short-comings,
and proceed
on their way,
without resentment,
without apprehension
and without worry,
and whose very manner
of living proclaims
that, after all,
a man is only as old
as his state of mind
and his wisdom
in living within
his limitations.

And it is
to these
that life gives
her largest bounty
and her greatest measure
of longevity
and whose pathways
are those
of tranquility
and contentment
and peace.

CYNICAL CINQUAINS

In March
A few
brave birds return,
deceived by zephyry breeze,
find snow and sleet and ice in turn
and freeze.

ADVENTURE

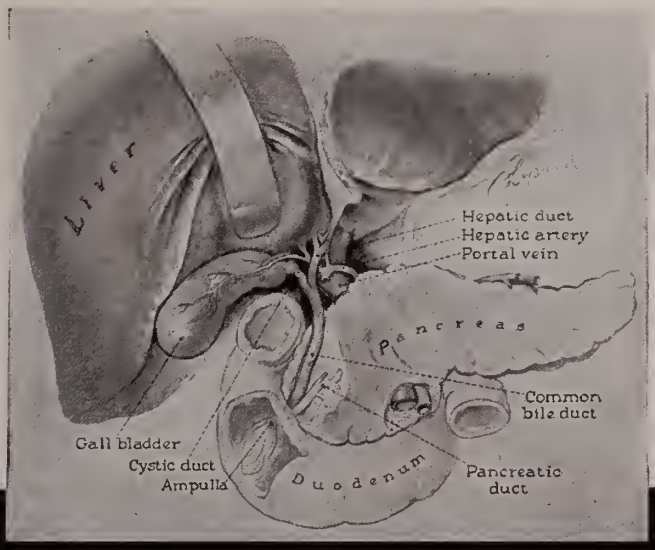
If you ever care to venture
On a rather rare adventure,
Then just follow us about from day to day:
And we promise as conclusions,
That you lose some pet illusions
And will look at life a wholly different way.

For the folks admired the keenest
You will often find the meanest
And they make you lose a lot of faith in man.
But all this is compensated
By a host all underrated
Who are members of bravest hero clan.

Oft the ones you think the gamest
Under stress become the lamest,
They fold up because they're quitters or are crooks.
There are others who face duty
In a way of startling beauty —
You can't tell what's in a man by how he looks.

In our work the thin veneering
And all pretense domineering
Have come off and we see people in the raw:
And it's keenly satisfying,
With the living or the dying,
That the most are purest gold without a flaw.

So you must not judge your fellow
Nor conclude that he is yellow,
Not until you walk with him o'er pathways rough:
For in spite of your surmising
You will find him most surprising
And may learn that he is made of finest stuff.



When Liver Function is Affected

SORPARIN

(EXT. SORBUS AUCUPARIA "McNEIL")

The wide field of usefulness for Sorparin includes all cases in which the function of the liver is affected — such as in administration of arsenicals, hemorrhage, surgery, jaundice conditions and chronic infections.

Sorparin acts on the liver cells, keeping them active to sustain the prothrombin level. It may be given routinely in all cases of biliary surgery since there are no untoward effects connected with Sorparin administration.

Sorparin is non-toxic, non-kinetic. It is absorbed and utilized in the absence of bile, and may be used concurrently with hydrochloric acid, sedatives or antispasmodics.

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Bottles of 100, 500 and 1,000

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The synergistic action of the acetophenetidin and acetylsalicylic acid helps to reduce the elevated temperature. The headache and malaise which often accompany fever are usually relieved.

Each product contains acetophenetidin gr. 2½ (0.162 gm.), caffeine gr. ½ (0.032 gm.), acetylsalicylic acid gr. 3½ (0.227 gm.). Also 'Tabloid' 'Empirin' Compound with Codeine Phosphate, gr. ⅛, gr. ¼, and gr. ½. 'Tabloid' and 'Empirin' are Registered Trademarks



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Bottles of 100 and 500

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Increased circulation is often associated with the relief of arthritic pain. A-B-M-C OINTMENT increases blood supply by dilatation of the arterioles and capillaries. In 88 percent of 96 patients studied, A-B-M-C provided relief from pain without any untoward effects when used as directed. No urticaria was produced in any case.*

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A-B-M-C OINTMENT is a trademark of Wyeth Incorporated, for its brand of ointment containing acetyl-beta-methylcholine chloride 0.25%, thymol, eucalyptol and methyl salicylate in an emollient base.

*Archives of Physical Therapy, **21**, 12 (Jan.) 1940.

Samples and literature on request.

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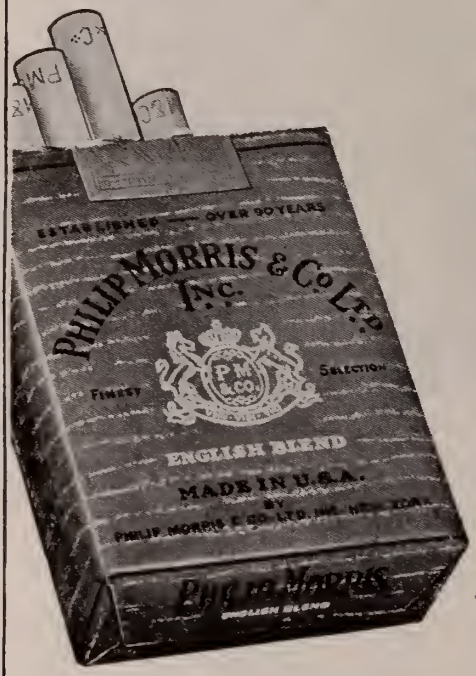
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less irritating



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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154. Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241. N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.*

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In relieving the discomfort which almost invariably accompanies acute sinusitis, the striking success of Benzedrine Inhaler, N.N.R., is as logical as it is gratifying:—

The Inhaler's vasoconstrictive vapor diffuses evenly throughout the upper respiratory tract, opening sinal ostia and ducts which are frequently inaccessible to liquid vasoconstrictors. The sinuses drain. Headache, pressure pain, "stuffiness" and other unpleasant sinusitis symptoms are relieved.



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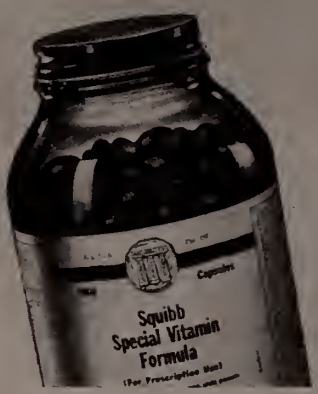
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"TOO LITTLE and too late" can be as disastrous in therapy as in warfare. This, it is now realized, is especially true in nutritive failure, where frequently it is too much to expect that a balanced diet alone will not only supply the patient's daily requirements but will also be able to compensate for deficiencies of long standing.

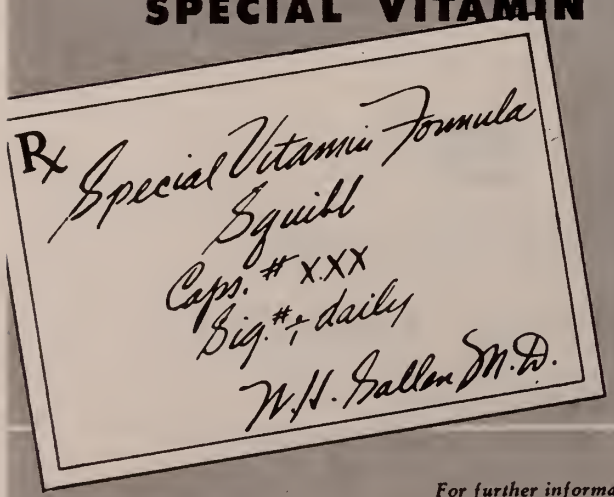
When nutritive failure calls for vigorous therapeutic measures, two main desiderata must be considered—the *strength* of the polyvitamin preparation prescribed, and the *balance* of its ingredients. An admirable guide for such therapy is provided by the new nutritional yardstick — the daily Recommended Dietary Allowances of the Food and Nutrition Board of the National Research Council—arrived at by a group of fifty leading experts on nutrition.

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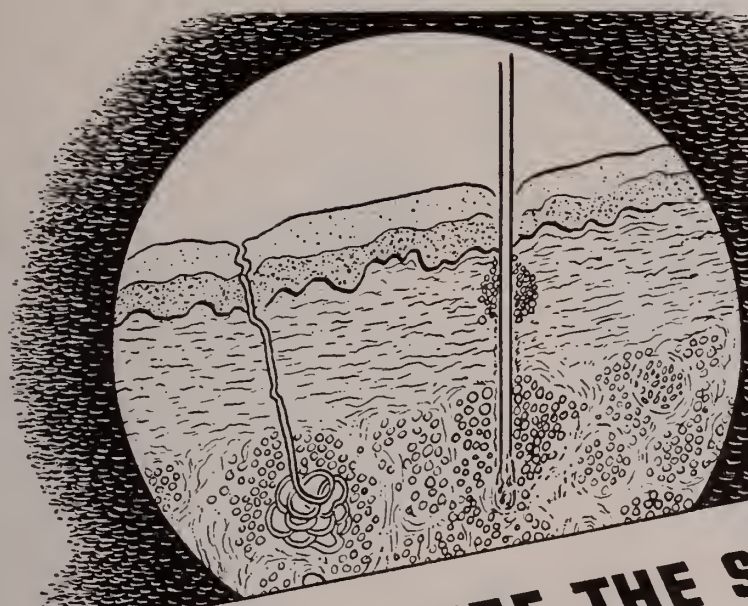
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(Continued on page 64)



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★ it has the same physiologic pH as skin.

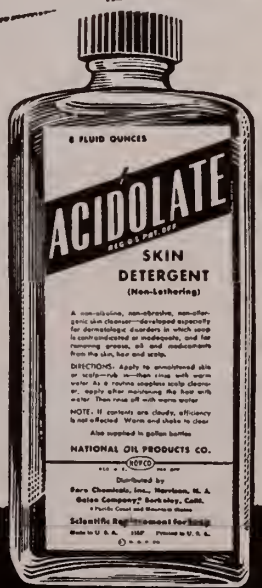
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★ it completely emulsifies skin soil, without lather, and being water-miscible, rinses off easily with any kind of water.

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1. Detergent in dermatologic disease . . . 2. Detergent for soap-irritable skin . . . 3. Removal of excessive natural and residual medicinal oil and grease from skin, scalp, and hair . . . 4. Soapless surgical scrub-up . . . 5. Management of acne vulgaris.



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Tarbonis effectively accomplishes the aims of therapy in papular eczema: It relieves the harassing pruritus — stops scratching, thus putting the involved tissues "at rest"—promotes required lymph circulation—stimulates healing.

With its high therapeutic efficacy Tarbonis combines a much appreciated cosmetic aspect. It is ODORLESS, there is no vestige of tarry odor. It is GREASELESS, since it is a vanishing-type cream. It is NON-STAINING and NON-SOILING; it cannot be detected on the skin after application; linen and clothing are in no way affected by it. No removal is required before reapplication. Hence the patient remains ambulatory, though 3 or 4 applications may be needed daily.

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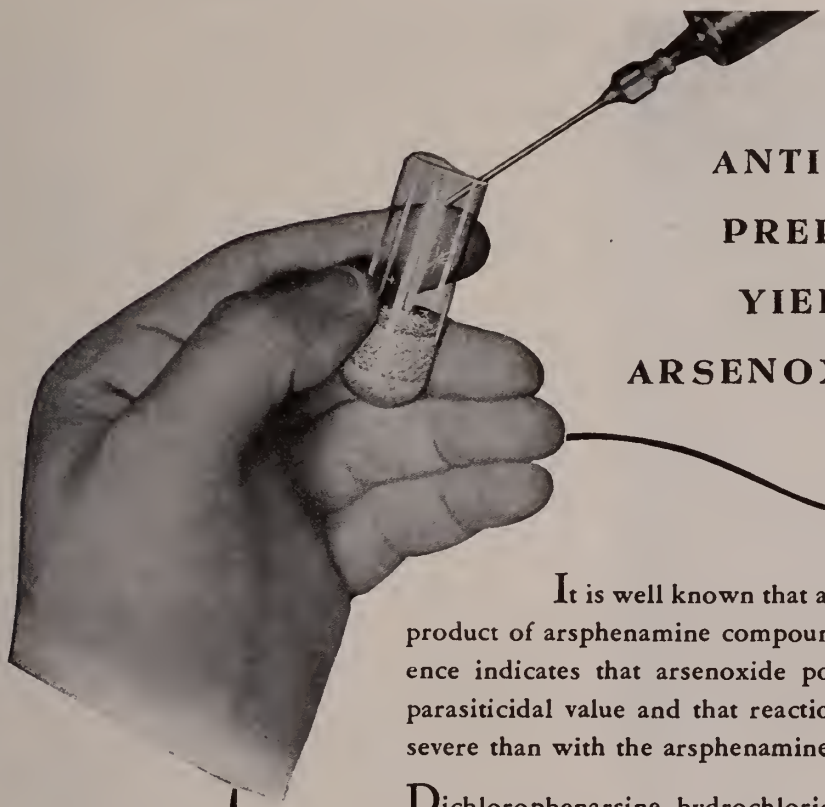
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It is well known that arsenoxide is the effective end-product of arsphenamine compounds. Extensive clinical experience indicates that arsenoxide possesses a relatively constant parasiticidal value and that reactions following its use are less severe than with the arsphenamines.

Dichlorophenarsine hydrochloride—Winthrop has within its molecule the nucleus for making arsenoxide. With each dose there is incorporated an accurately adjusted amount of anhydrous sodium carbonate, sodium chloride and sugar. The addition of 10 cc. of distilled water instantly yields arsenoxide in isotonic solution (CO_2 escaping in gaseous form). Thus, the physician is assured that *each time in each case* the active antiluetic which he injects is fresh.

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Potency
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less heart-stimulating
effects)

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Book Reviews

Urological Surgery; By Austin Ingram Dodson, M.D., F.A.C.S., Professor of Urology, Medical College of Virginia, Richmond, Virginia. Cloth. Pp 768, with 576 illustrations. St. Louis, C. V. Mosby Company, 1944.

As the title indicates, the major portion of the contents are devoted to surgical procedures of the genito-urinary organs with no attempt to give a complete treatise on urological diseases. The author intends this work to act as a supplement to the many excellent urological texts already available. He has added a few chapters on diagnosis and pathology in an effort to aid those men in small communities who lack basic urological training, yet must perform urological surgery.

The chapters on Excretory Urography and Cystography, Radiation Therapy, Acid Base Balance and Fluid Administration, Blood Transfusion, Anesthesia in Urological Surgery and Endocrinology and Endocrine Therapy of the Prostate are written by men well versed in their respective subjects.

After a few chapters on general subjects, the subject matter is arranged anatomically with a general discussion of surgical approaches, preparation and anesthesia followed by chapters on specific surgical conditions affecting that organ with one or several different surgical approaches for correction. The author has chosen the most widely accepted methods and on occasion adds modifications of his own. The many illustrations aid materially in interpreting the description of the methods used. Each chapter is followed by a fairly complete bibliography. The chapter on nephroptosis is perhaps the most complete.

The author is constantly urging acidification of the urine as a pre-operative measure. On page 52 while discussing pre-operative care of infection, he goes so far as to state that all cases "should be made strongly acid before operation if possible." Just prior to that statement, he advocates pre-operative use of the sul-

(*Continued on page* 48)

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Example of severe rickets in a sunny clime.

LEST WE FORGET—we who are of the vitamin D era—severe rickets is not yet eradicated, and moderate and mild rickets are still prevalent. Here is a white child, supposedly well fed, if judged by weight alone, a farm child apparently living out of doors a good deal. This boy was reared in a state having a latitude between 37° and 42°, where the average amount of fall and winter sunshine is *equal to that in the major portion of the United States*. And yet such stigmata of rickets as *genu varum* and the quadratic head are plain evidence that rickets does occur under these conditions.

How much more likely, then, that rickets will develop among city-bred children who live under a smokepall for a large part of each year. True, vitamin D is more or less routinely prescribed nowadays for infants. But is the antiricketic routinely administered in the home? Does the child refuse it? Is it given in some unstandardized form, purchased from a false sense of economy because the physician did not specify the kind?

A uniformly potent source of vitamin D such as Oleum Percomorphum, administered regularly in proper dosage, can do more than protect against the gross visible deformities of rickets. It may prevent hidden but nonetheless serious malformations of the chest and the pelvis and will aid in promoting good dentition. Because the dosage is measured in *drops*, Oleum Percomorphum is well taken and well tolerated by infants and growing children.



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BOOK REVIEWS (Continued)

fonamides. In case of the latter, acidification is usually contraindicated. Also, many cases of poor renal reserve have concomitant acidosis and again attempting to acidify the urine would be dangerous. This subject is discussed under a special chapter but might be overlooked by the casual reader.

In the chapter by L. O. Snead on Excretory Urography and Cystography, one cannot help but note the antithesis set up in the first paragraph. He starts out by stating that it was not his intention to prove the advantage of excretory over retrograde pyelography and yet winds up the same paragraph attempting to do just that. In the same chapter, it should be noted that the film on page 70 is reversed.

In the chapter on Anesthesia by E. I. Evans, transsacral and caudal anesthesia are dismissed as impractical, yet it is the reviewer's belief that they should have been discussed because of their wide and safe usage in many urological procedures.

In general, the entire text is an expression of the author's urological experience. Reference to this book will bring profit to both the urologist and the general practitioner required to do some urological surgery. It brings into one volume many of the up-to-date procedures and is certainly a welcome volume to a urological library.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

THE AVITAMINOSES: The Chemical, Clinical and Pathological Aspects of the Vitamin Deficiency Diseases: By Walter H. Eddy, Ph.D., Emeritus Professor of Physiological Chemistry, Teachers Col-

(*Continued on page* 50)

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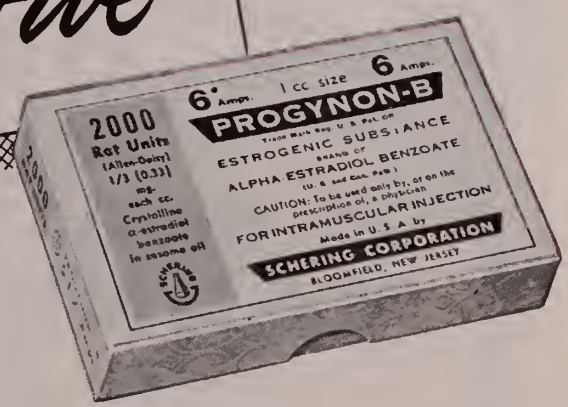
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BOOKS RECEIVED (Continued)

lege, Columbia University; and Gilbert Dalldorf, M.D., Pathologist of Grasslands and Northern Westchester Hospitals, Westchester County, New York. Third Edition. The Williams & Wilkins Company, Baltimore. 1944. Price $4.50.

LIFE OVERFLOWS: An original scrapbook arrangement of soothing philosophical thoughts. By Carl Leonard Thenebe, M.D., Bruce Humphries, Inc., Boston. Price $2.50.

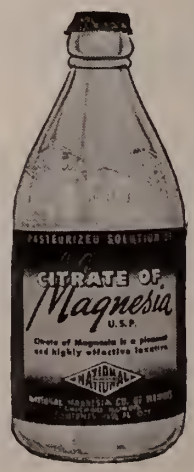
THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF AMEBIASIS: By Charles Franklin Craig, M.D., M.A. (Hon.), F.A.C.S., F.A.C.P., Colonel, United States Army, Retired, D.S.M. Late Commandant, Army Medical School, and Assistant Commandant, Army Medical Center, Washington, D. C., Emeritus Professor of Tropical Medicine, Medical School, Tulane University of Louisiana, New Orleans, La. Illustrated. The Williams & Wilkins Company, 1944. Price $4.50.

CLINICAL HEART DISEASE: By Samuel A. Levine, M.D., F.A.C.P., Assistant Professor of Medicine, Harvard Medical School; Physician, the Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton Hospital; Physician, New England Baptist Hospital, Boston. Third Edition, Revised & Reset. 462 pages with 157 illustrations. W. B. Saunders Company, 1945. Philadelphia and London. Price $6.00.

SURGERY OF MODERN WARFARE: Edited by Hamilton Bailey, F.R.C.S., Surgeon, Royal Northern Hospital, London; Surgeon, E.M.S.; Surgeon and Urologist, County Hospital, Chatham; Senior Surgeon, St. Vincent's Clinic and the Italian Hospital; Consultant in Genito-Urinary and General Surgery, Peterborough Hospital; Consulting Surgeon, Essex County Council and Clacton Hospital; formerly External Examiner in Surgery, University of Bristol; Temporary Surgeon-Lieutenant, Royal Navy. Sub-Editor for Medicine, C. Allan Birch, M.D., M.R.C.P., D.C.H., D.P.H., M.M.S.A., Senior Physician, North Middlesex County Hospital. Compiled by Seventy-seven Contributors. In two volumes. Third Edition. The Williams & Wilkins Company, Baltimore, 1944.

Sound public health practice demands that the method used in mass radiography for the control of tuberculosis be one which benefits the largest number of persons in industry or the community. When available funds are limited, it is of greater value to examine 100,000 persons with small films and miss a few minimal cases than to examine only one-tenth of that number at about the same cost, using large celluloid films and leaving 90,000 persons without benefit of any X-ray examination whatever. H. E. Hilleboe, M.D. & D. M. Gould, M.D., Jour. A.M.A., May 24, 1944.

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NEW METHOD MEASURES CONCENTRATION OF PENICILLIN IN BODY FLUIDS

The results of observations made on penicillin levels in the blood and other body fluids by the use of a relatively simple method which has yielded apparently consistent results and some useful information, are reported by Jean V. Cooke, M.D., and David Goldring, M.D., St. Louis, in *The Journal of the America Medical Association* for January 13.

The absorption and distribution of penicillin in the various body fluids after parenteral injection and the duration of its survival in body fluids or cavities under normal or disease conditions are questions of considerable interest in penicillin treatment, the two authors point out. Although some studies have been made in certain cases, there has apparently been no method for such measurements that was easily applicable to routine observations in patients.

The method they describe consists in determining the smallest amount of the fluid from a patient which will produce complete inhibition of a standard strain of Staphylococcus aureus.

The results the two physicians report were obtained from patients who for the most part were infants and children in St. Louis Children's Hospital who were receiving penicillin treatment and in addition a few adults in the Barnes Hospital.

They found that after injections into a muscle the concentration of penicillin in the blood reached its highest level within thirty minutes, was still moderately high at one hour and fell rapidly during the second hour but often persisted at lower levels for three to four hours. Blood levels after injection beneath the skin were quite similar to those after injection into a muscle.

Finding a person with tuberculosis in the minimal stage means a large saving to the individual and to the taxpayer; for such a person may by treated with little or no loss of time. Usually this disease does not become contagious and, therefore, he does not spread it to others. Furthermore, he, himself, does not fall ill, and therefore, does not require a long period of hospitalization. The Evolution of Tuberculosis by J. A. Myers, M.D., Minneapolis, Minn., 1944.

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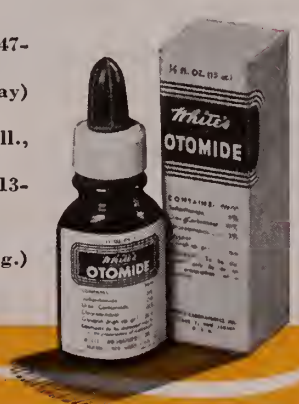
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REFERENCES

1. Tenenberg, D. J. et al.: Proc. Soc. Exper. Biol. & Med., *51*:247-249 (Nov.) 1942.
2. Holder, H. G. and MacKay, E. M.: Mil. Surg., *90*:509-518 (May) 1942.
3. McClintock, L. A. and Goodale, R. H.: U. S. Naval Med. Bull., *41*:1057 (1943).
4. Foulger, J. H. and Foshay, L.: J. Lab. & Clin. Med., *20*:1113-1117 (Aug.) 1935.
5. Mertins, P. S.: Arch. Otolaryng., *26*:509-513 (Nov.) 1937.
6. Ashley, R. E.: Trans. Am. Acad. Ophth., *46*:257-264 (July-Aug.) 1942.



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ENRICHMENT OF BREAD AFTER THE WAR

Pointing out that both federal and state action will be required to assure continuation of the benefits of enriched bread, now compulsory under wartime regulations, *The Journal of the American Medical Association* for January 20 declares such a program should have the active support of all informed persons. *The Journal* explains that "Among the important applications of the numerous advances in nutrition is the development of the program for enrichment of food. By order of the War Food Administration all baker's white bread, white rolls and sweet rolls must be enriched with vitamins of the B complex and iron to stated levels. The content of enriched baked goods in thiamine, niacin and iron is thus brought to the desirable high levels of these constituents found in similar products made from whole wheat flour. . . .

"The continuance of these benefits to the nation's nutritional standard is not now assured beyond the duration of the emergency. The compulsory enrichment of baker's white bread and rolls terminates with the resolution of the wartime powers of the War Food administration. The problem then reverts on the individual states as to whether enrichment of these foods will continue to be required. Legislation at the federal level would affect only those products handled in interstate commerce. . . ."

MORPHINE AFTER INJURIES

Routine use of morphine in all cases of trauma or shock is editorially criticized by The Lancet, London, with the recommendation that the true indications should be pain and restlessness due to anxiety or hemorrhage. The ideal dosage is the smallest dose that will be effective. It must be remembered that morphine depresses the respiratory center, causing shallow, slow breathing, thus decreasing the oxygen intake and further increasing the anoxia of the cerebral centers. Doses must be repeated with care, since in the shocked patient absorption may be slow at first with disappointing results and, later, as the circulation recovers, massive absorption may occur with disastrous effect.

If subcutaneous injection is ineffective, intramuscular or intravenous administration is advised. However, not more than ¼ gr. diluted to at least 1 cc., may be given intravenously, at least one minute being taken for the injection. When injection is impracticable, one or two ¼ gr. hypodermic tablets work well if placed under the tongue.



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REPORT FIRST SUCCESSFUL OPERATION FOR ANEURYSM OF AORTA IN CHEST

The first successful operation in which there was removed a section of the thoracic aorta on which there was an aneurysm is reported in *The Journal of the American Medical Association* for December 30 by John Alexander, M.D., and Francis X. Byron, M.D., of the University of Michigan Medical School.

"On Oct. 20, 1943 we successfully removed an aneurysm of the thoracic aorta measuring 11 by 8 cm., together with a 7.5 cm. length of the aorta," the two surgeons say. "We are reporting this case because of its historical interest from the physiologic, medical and surgical points of view, since we can find no record in which an aneurysm of the thoracic or abdominal aorta has been successfully removed or in which the thoracic aorta has been successfully ligated."

They believe the aneurysm probably arose in connection with a narrowing or construction of the aorta. The two men warn, however, that "the operation used in our patient has no bearing on the management of aortic aneurysm in general because in him there was an exceptional combination of circumstances that made the operation feasible."

Of primary importance was the fact that the patient, a young man, had a good collateral circulation, so that after the aorta was tied off the supply of blood to the lower part of the body was sustained by means of smaller arteries. These smaller arteries branch off the upper part of the aorta. Ordinarily they do not carry a large volume of blood.

Also contributing to the success of the operation was the good health of the patient, the absence of syphilitic disease of the aorta and the fact that the aneurysm was so located that the aorta could be tied off below the artery leading to the brain and spinal cord.

Every home or environment in which there is an infectious case of tuberculosis is a stronghold of the tubercle bacillus which must be "cleaned out" through the persevering use of modern scientific control measures. Robert E. Plunkett, M.D.

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JANUARY ISSUE, MISSISSIPPI VALLEY MEDICAL JOURNAL, IS A CHICAGO NUMBER

The January issue of the MISSISSIPPI VALLEY MEDICAL JOURNAL is entitled a "Chicago Number" and is devoted to papers presented by Chicago clinical teachers who participated in the Tenth Annual Meeting of the Mississippi Valley Medical Society held at Peoria last September. There are papers by Drs. Warren H. Cole and Eric Oldberg of the University of Illinois and Drs. Edward L. Compere and A. C. Ivy of Northwestern University.

AGRANULOCYTOSIS

Two cases of agranulocytosis successfully treated with penicillin are reported in *The Journal of the American Medical Association* for December 16 by Lieutenant Colonel Leslie B. Smith, Major Frank Cohen and Captain Ralph G. Nichols, Medical Corps, Army of the United States.

"Although both of our patients received additional therapy" the authors say, "the striking improvements were observed to occur during the first twenty-four hours of the penicillin therapy. From the results obtained in these 2 cases we believe that further trial of penicillin in the treatment of agranulocytosis is indicated."

The attack on tuberculosis in hospitals must be conducted on a twofold plane. Unsuspected tuberculosis among the patients must be discovered for the sake of the patient and for the protection of the hospital personnel, while unsuspected tuberculosis among the employees must be ferretted out for the sake of the personnel and the protection of the patients. Only a handful of hospitals now conduct a systematic search for tuberculosis among their patients. Tuberculosis surveys in hospital personnel, particularly among student nurses, seem to be somewhat more frequent. Maxim Pollak, M.D., Hospitals, Sept. 1944.

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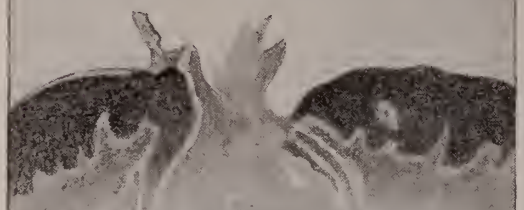
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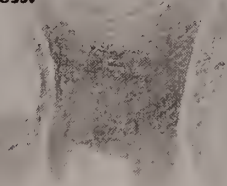
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MORE EVIDENCE OF PENICILLIN'S VALUE FOR SUBACUTE BACTERIAL ENDOCARDITIS

Additional evidence that penicillin is of value in the treatment of subacute bacterial endocarditis, a condition which is almost invariably fatal, is reported in *The Journal of the American Medical Association* for January 20 by Martin Henry Dawson, M.D., and Thomas H. Hunter, M.D., New York.

The report concerns the results obtained in the treatment of 20 patients, with a supplemental report on 7 additional patients. Although heparin, an anticoagulant, was used in combination with the penicillin in a majority of the patients, the two investigators obtained some encouraging results without it.

The infecting organism was a streptococcus in all instances. "While it is recognized that a long follow-up will be necessary before the ultimate outcome is established," they say, "therapy was apparently successful in 15 of the 20. All 15 patients are now clinically and bacteriologically free from infection. In 2 of the remaining 5 patients the infection was controlled as long as penicillin was administered, but a relapse occurred when therapy was discontinued. These 2 patients are still in excellent general health, and it is hoped that it will yet be possible to arrange for a therapeutic regimen which will produce a satisfactory outcome. The remaining 3 patients succumbed. In each instance death was apparently due to a cerebral embolus. In 2 of the fatal cases the infection was still present at the time of death, and in the third the situation was in doubt. Further experience is necessary before an opinion can be expressed regarding the value of heparin as an adjuvant to penicillin in the treatment of this disease."

In an addendum Drs. Dawson and Hunter say that since the preparation of their report 7 additional patients with this disease have been treated with penicillin. In the last 5 of these the drug was administered by the continuous drip method into muscle and heparin was not used.

"The results indicate that the response was as favorable in this group as in those patients in whom heparin was used," they say. "In 6 patients the infection has apparently been terminated. The seventh patient relapsed after one course and is now receiving additional therapy. . ."

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And your speed is divided in half;
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And you talk with a squeak —
You are old, so admit it and laugh.

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A NEW TYPE OF MAGNET REMOVES FOREIGN BODIES FROM STOMACH

Physician Says It Will Render Unnecessary Many Abdominal Operations Now Required For Removal of Magnetizable Objects

A new type of magnet, by which magnetizable foreign bodies in the stomach and windpipe can be removed, thus eliminating operations which often are necessary to remove such objects, is described in *The Journal of the American Medical Association* for January 13 by Murdock Equen, M.D., of the Ponce de Leon Eye and Ear Infirmary, Atlanta, Ga.

The magnet is composed of alnico, an alloy of aluminum, nickel, cobalt and iron. For the past two years, Dr. Equen says, the new alloy magnet has been available as a small permanent type for use in removing foreign objects from the eye.

The instrument reported for use of the magnet is composed of a tube to which the magnet is attached and which is introduced into the stomach through the mouth and esophagus. At the other end of the tube is a rubber bulb which is used for inflating the stomach. This inflation lifts any collapsed portion of the stomach from the foreign object, such as a pin, allowing the magnet to be passed about freely, and the foreign body is thus unimpeded in being attracted by the magnet.

As Dr. Equen explains, the removal of foreign bodies from the stomach and windpipe by means of the gastroscope and flexible forceps is a very difficult procedure. The constant shifting of the position of the foreign body, in a space as large as a stomach, makes it very difficult to establish contact between the forceps and the object.

Alnico magnets require a considerably stronger magnetizing force to magnetize them completely than do other types of permanent magnet alloys, the author says. At the same time, alnico has more available external energy or attracting power for a given volume or size than has any other permanent magnet material known at the present time.

Dr. Equen presents in his paper a case report that he says is typical of the entire series of cases of foreign bodies removed by the new magnet. He tells of a girl aged 19 months who had swallowed her mother's hairpin twelve hours previous to the time the baby was brought to him. The new instrument was passed down the esophagus and introduced into the stomach of the child. This was done against a background of a fluoroscopic screen which revealed by means of x-ray the position of the hairpin and also of the magnet. The stomach was then inflated, the pin quickly coming into the range of the magnet to which it was attracted and then withdrawn from the stomach. The entire procedure lasted only eight minutes, he said.

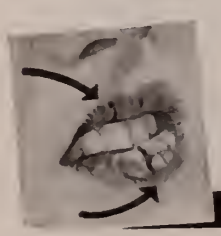
"The new alloy magnet, alnico," Dr. Equen concludes, "is being proved of great value to medicine. For the past two years it has been available as a small permanent type eye magnet. Only a minority of foreign bodies of the food and air passages are magnetizable, but among those which are the use of this instrument will render unnecessary many abdominal operations and decrease bronchial instrumentation."

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The ILLINOIS Medical Journal

VOL. 87 NO. 3

March, 1945

In This Issue

A Step in Cancer Control

The Pathologic Basis for the Clinical Manifestations In Nephritis

Certain Aspects of the Newer Insulins

(See page 35 for complete Table of Contents)

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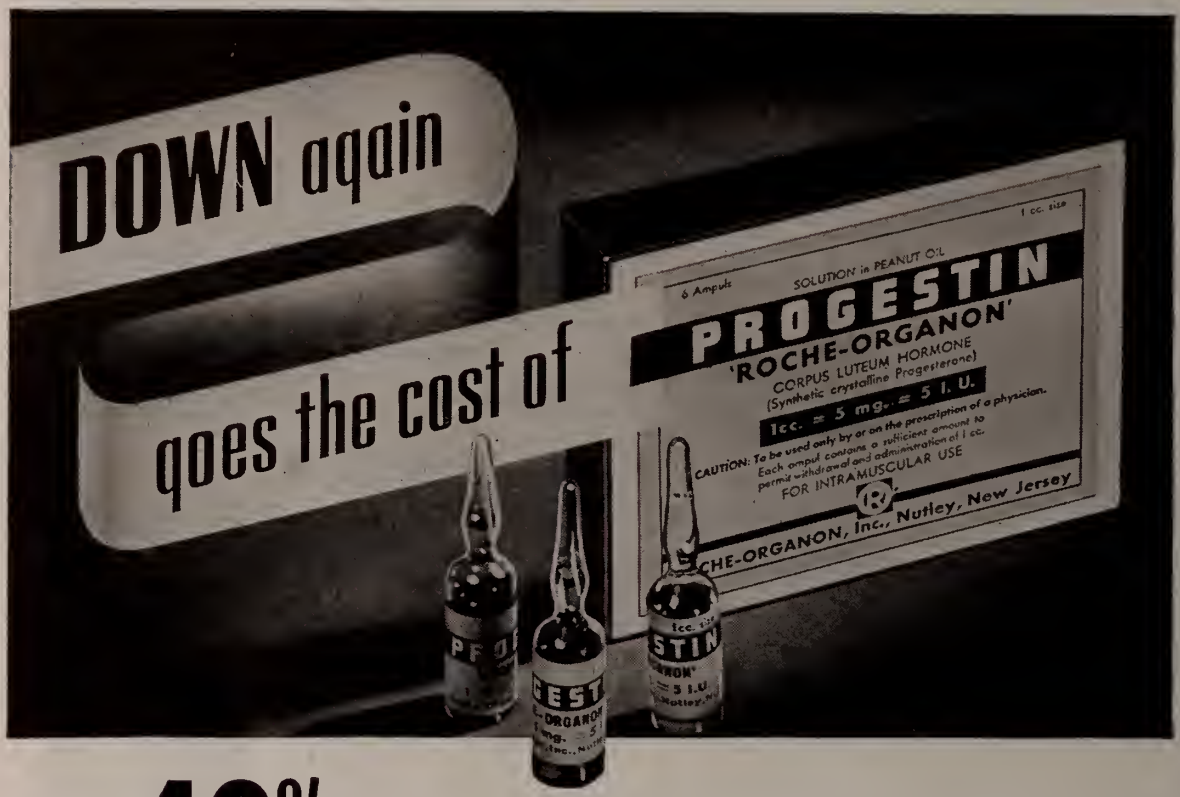
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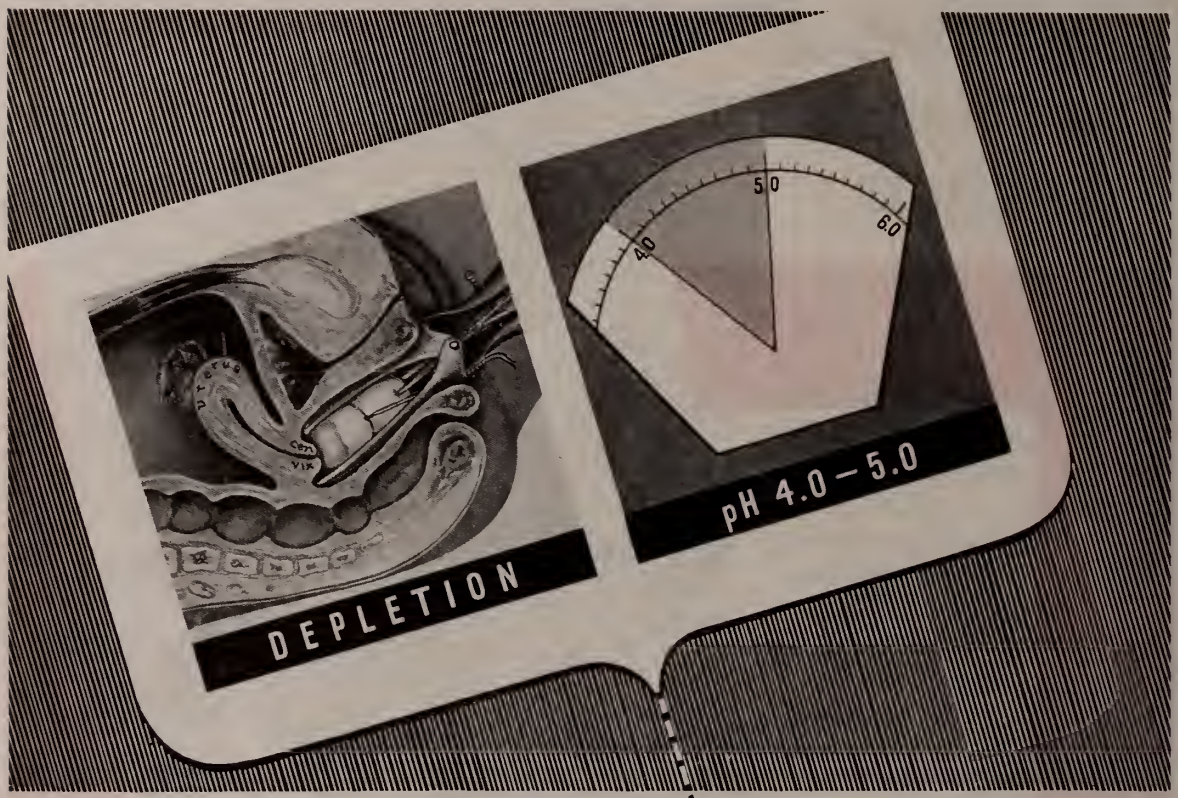
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*MacFarlane, M. G.: The Therapeutic Value of Gas-Gangrene Antitoxin, Brit.M.J., 2:636-640 (1943).

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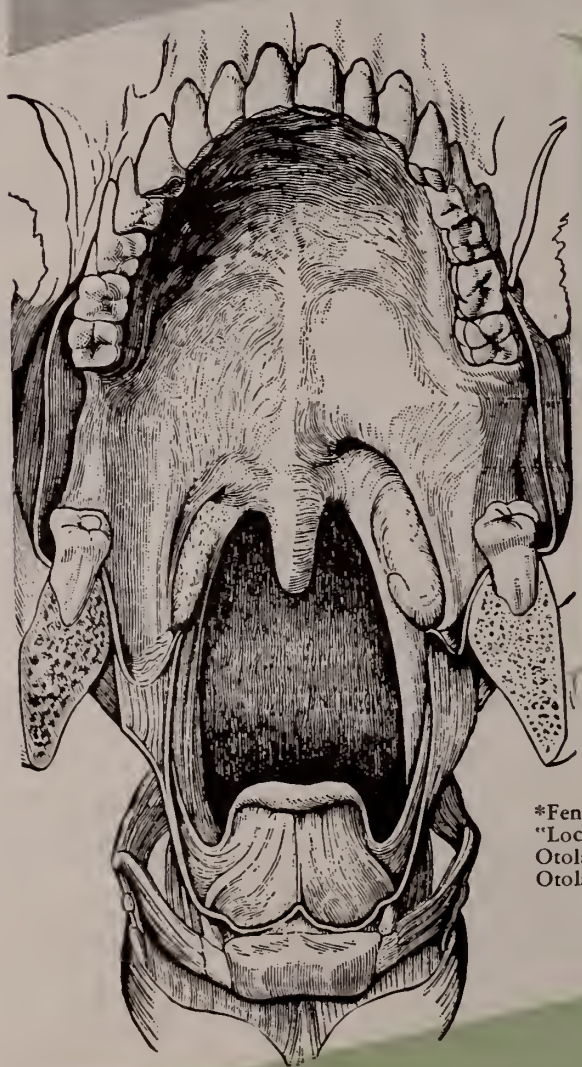
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*Fenton, Ralph A.:
"Local Use of Sulfathiazole in Otolaryngologic Practice", Arch. Otolaryng., 37:491, 1943.

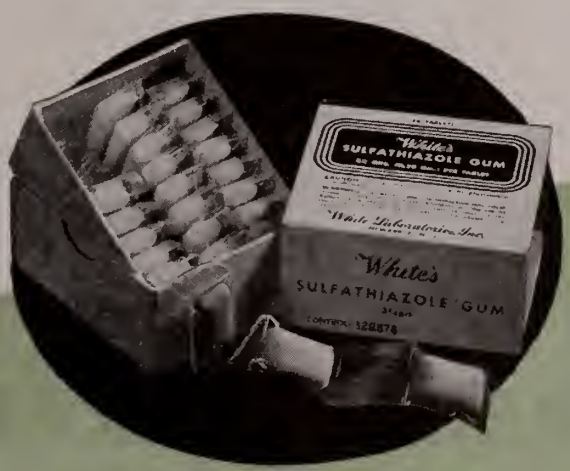
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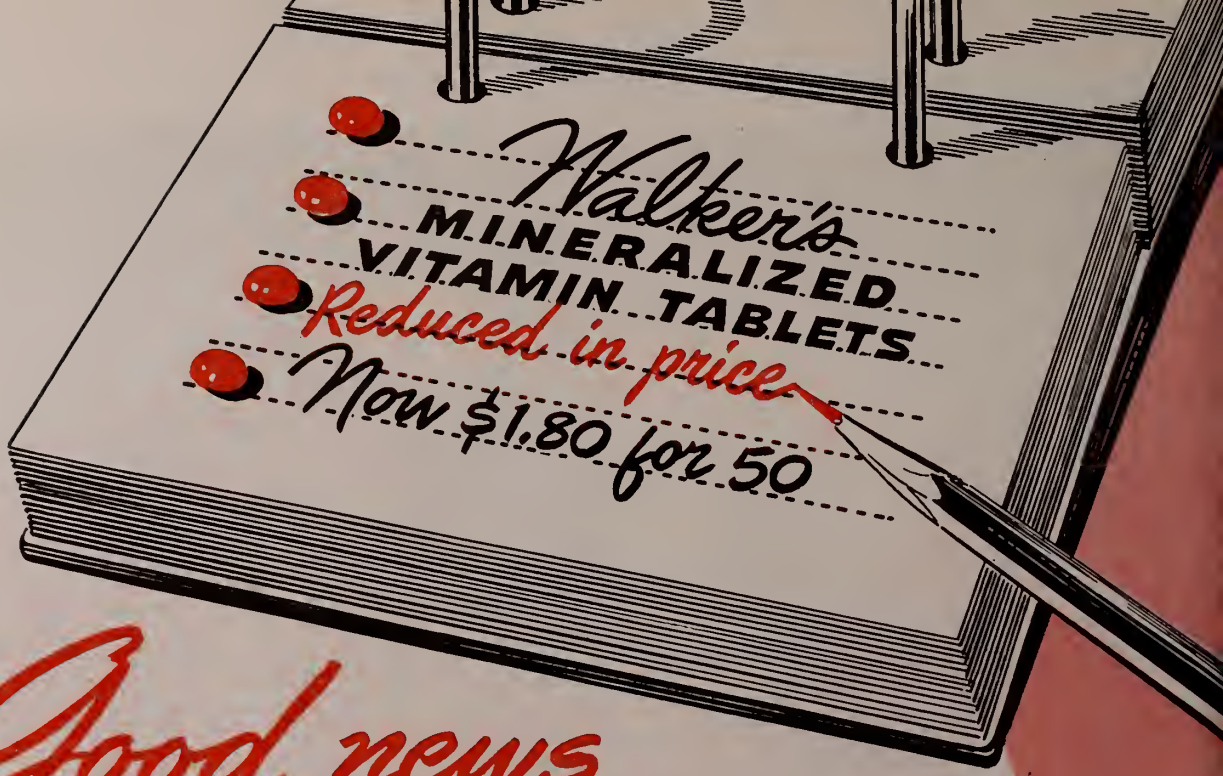
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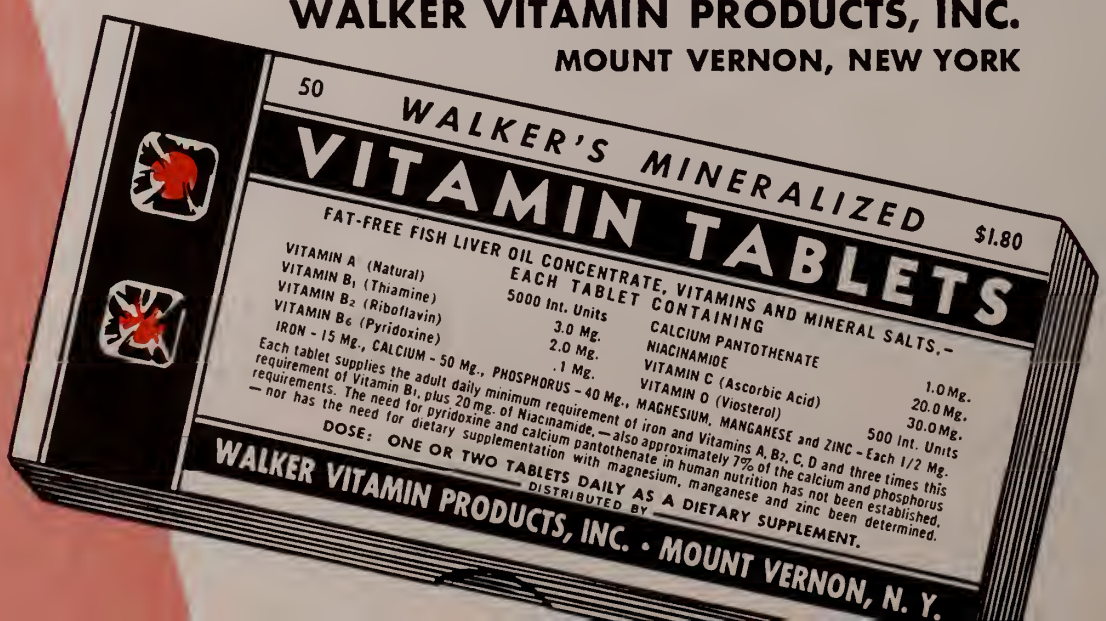
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*Proc. Soc. Exp. Bio. and Med., 1934, 32, 241-245.
**Laryngoscope, 1935, XLV, No. 2, 149-154.

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1. Cohen, A., and Rosen, H.: Arch. Physical Therapy 21:12, 1940.



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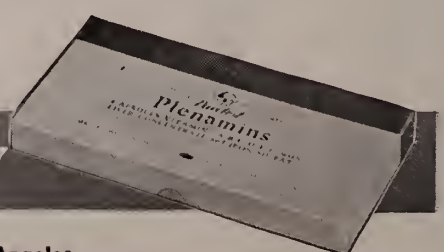
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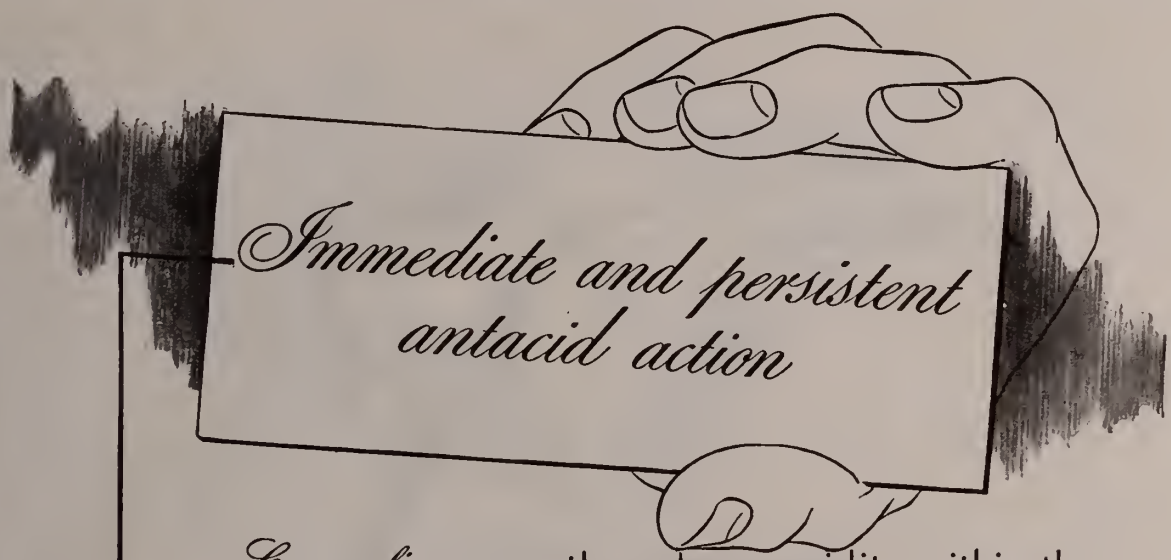
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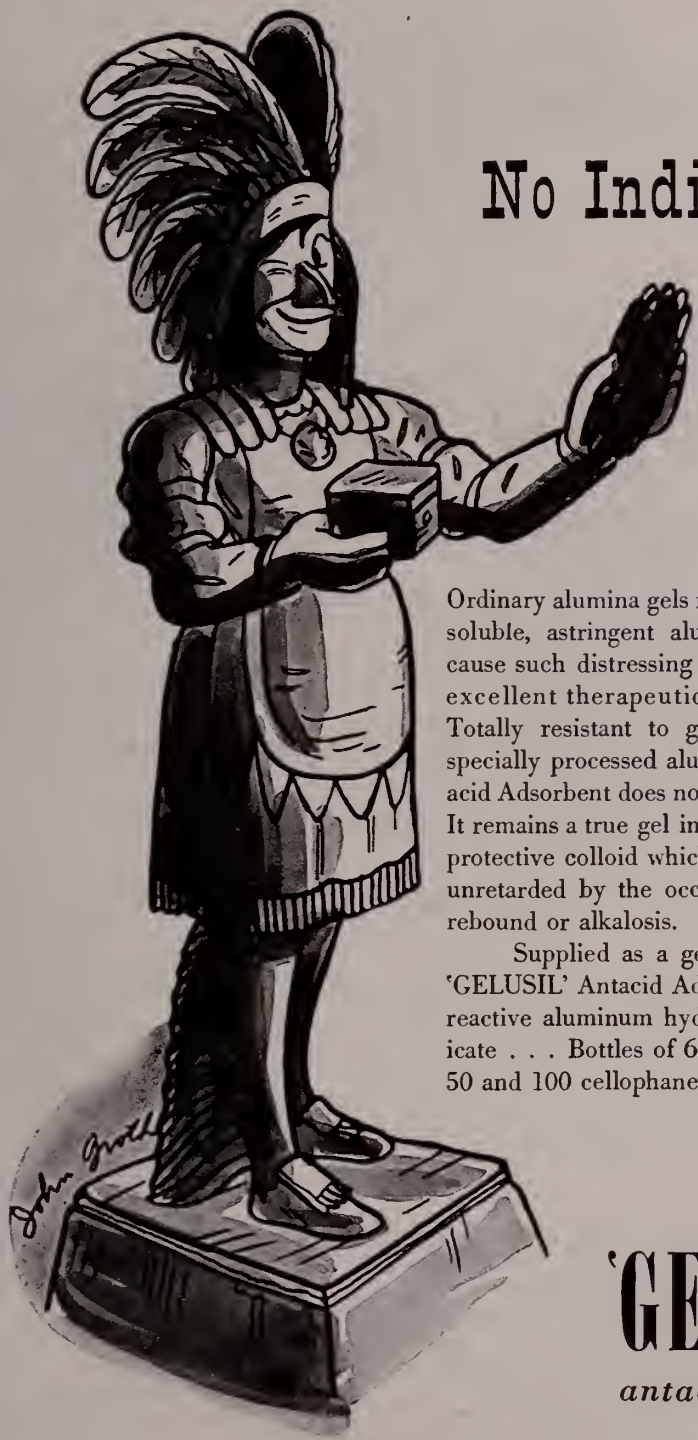
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1. The Vitamins, Chicago, A.M.A., 1939, p. 486.

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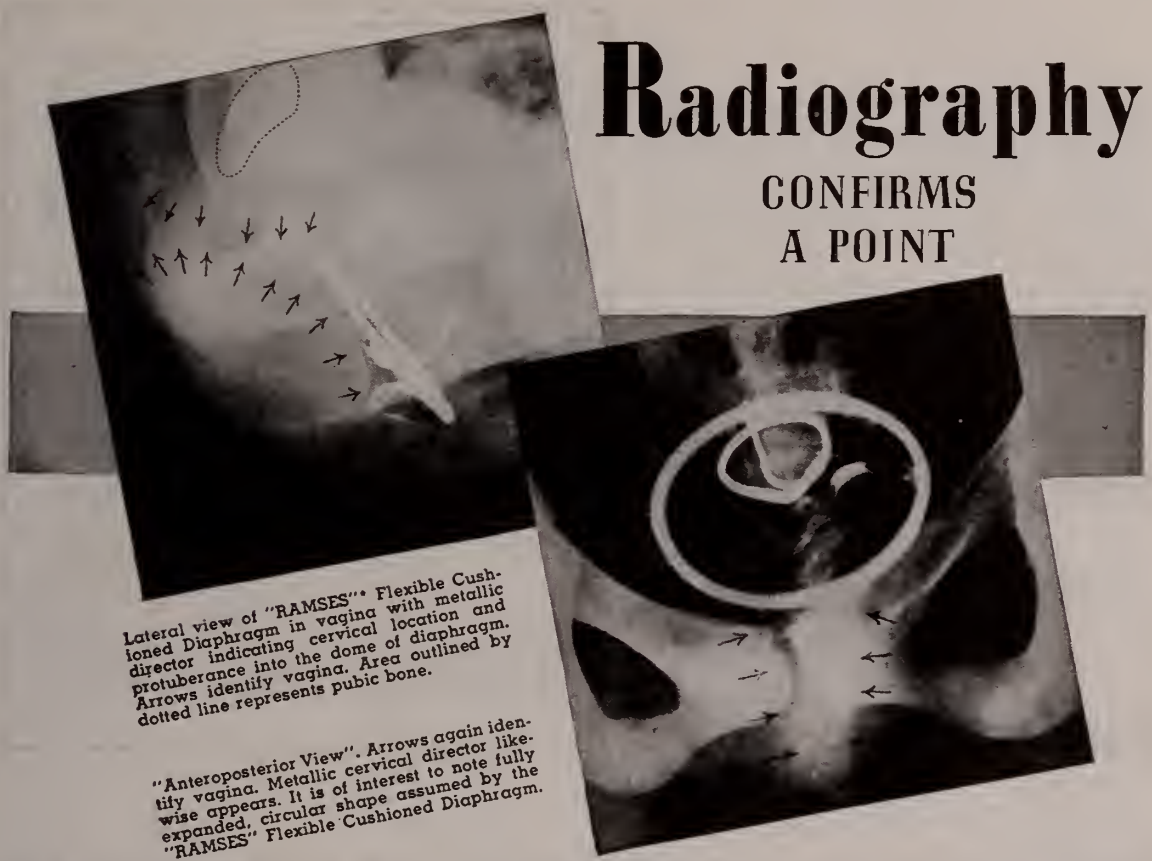


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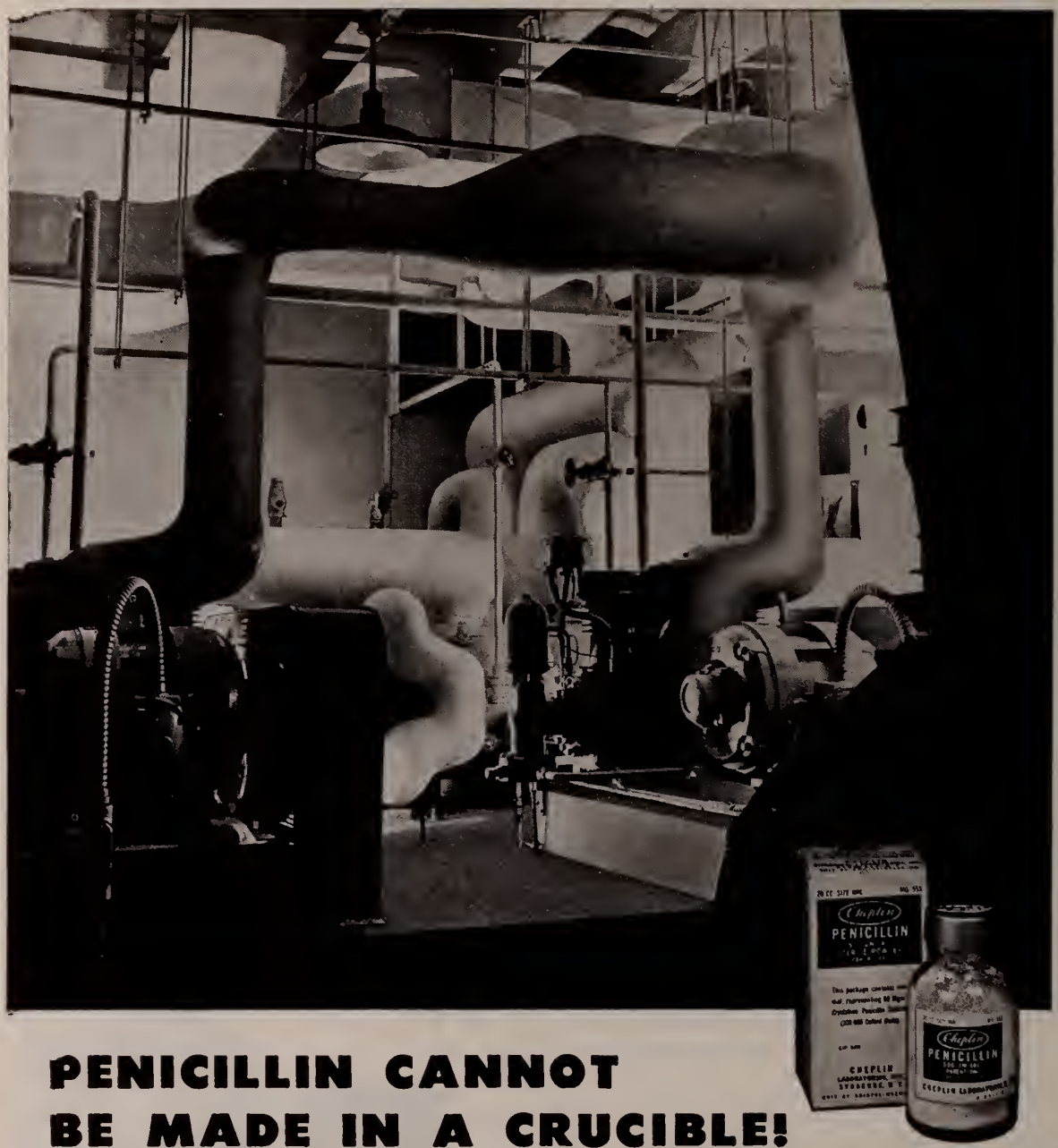
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*GOLD, H.; CATTELL, McK.; MODELL, W.; KWIT, N. T.; KRAMER, M. L., and ZAHM, W.; Clinical Studies on Digitoxin; With Further Observations on its Use in the Single Average Full Dose Method of Digitalization, J. Pharmacol. & Exper. Therap. 32:187-195 (Oct.) 1944.

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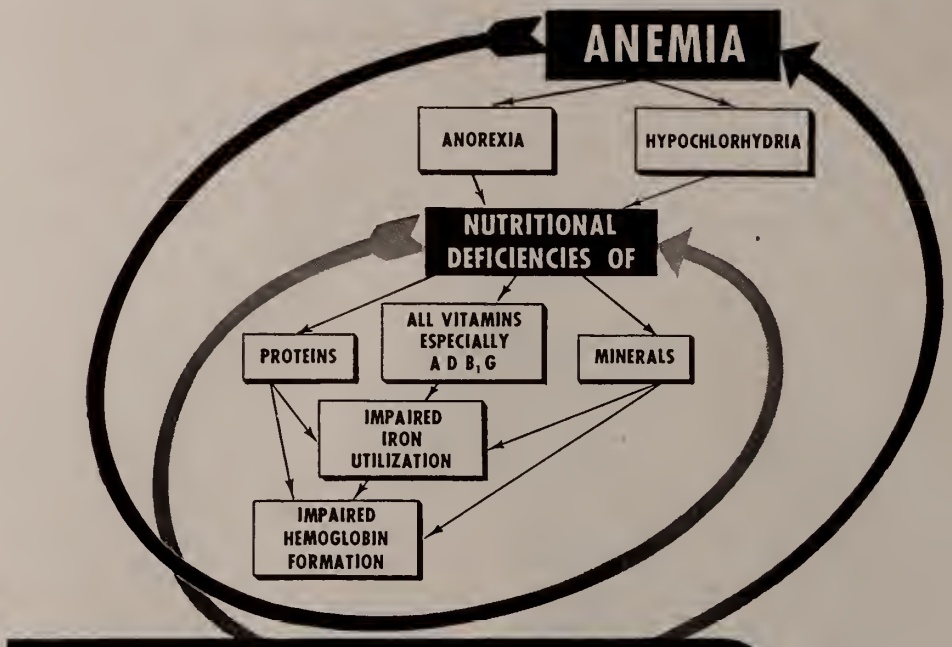
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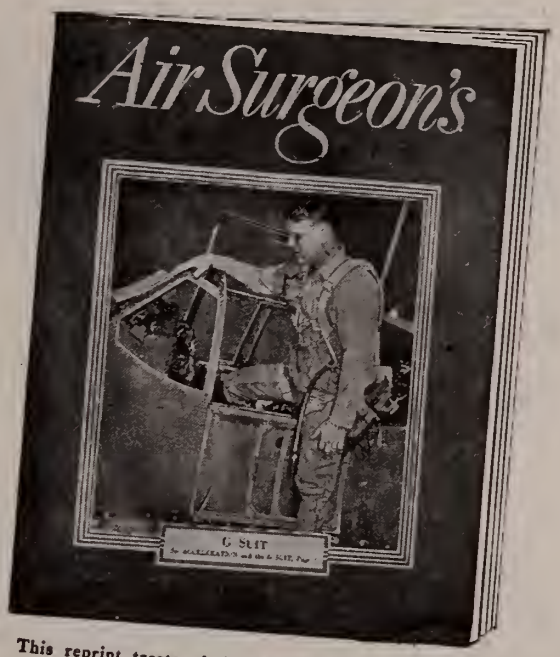
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VOL. 87, NO. 3

The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

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Editorials

CANCER CONTROL IN ILLINOIS

Broadly speaking, cancer in Illinois follows the same pattern as elsewhere in the country and presents no important differences in behavior.

Contributing more than 12,000 deaths annually in the State, exceeded only by heart disease, cancer ranks high in the general mortality.

In the practice of medicine, cancer control is largely a matter of early diagnosis and correct treatment promptly applied. The diverse clinical manifestations of this disease create a demand for modern methods in pathology, diagnosis, treatment and follow-up which is hardly equaled in any other medical field.

With the extensive improvement of diagnostic and therapeutic techniques the care of the cancer case can no longer be considered a "one man job." To give the cancer patient the best service today, the general practitioner must refer him to more experienced hands; the cancer surgeon must appreciate the value of radiation therapy; the radiologist must be familiar with the possibilities of cancer surgery; and both must be acquainted with the science of the pathologist. Consultation and team work are necessary for best results in every phase of management of the cancer case.

Modern methods of cancer therapy are best provided in cancer institutes, cancer hospitals, and special cancer services in general hospitals. A cancer institute is a large organization, preferably affiliated with a university, which is amply equipped to provide the most advanced treatment for every form of the disease and complete facilities for research and education in the cancer field. With special equipment and a specially trained staff the cancer hospital also renders a superior type of service to the cancer patient, without the more extensive provisions for research and education. When the facilities of a cancer institute or cancer hospital are not available, the more pressing needs of the situation can be satisfactorily met by special cancer services in general hospitals.

In this latter field, Illinois took a place among the leading States of the country in 1941 by the initiation of a program of promotion and maintenance of tumor diagnostic services in general hospitals under the auspices of the Division of Cancer Control of the State Department of Public Health. The policies of this program have been developed in close cooperation with the Cancer Committee of the State Medical Society; and supervision by the Advisory Board to the Division, consisting of physicians eminent in the cancer field, has insured the conservation of the interests of the practicing physician in every respect. Several hospitals in the Chicago area have conducted important special cancer services under private auspices for many years.

With the increasing cancer load resulting from improved diagnosis and an aging popula-

tion there has been a corresponding increase in the need for more extensive diagnostic and therapeutic facilities in general hospitals, where the vast majority of cancer patients are now treated. In the downstate areas particularly this need is immediate and urgent.

The most distressing problem of cancer control is the care of the indigent terminal cancer case; and no satisfactory program for such care has yet been devised anywhere. A separate institution for such terminal care is considered by cancer authorities to be undesirable. In this State the problem may be largely met by the provision of home-nursing care for the majority of these cases; and active consideration should be given to such a program.

Furthermore, the time is rapidly approaching when Illinois must plan for the establishment of a cancer institute which will rank with the existing organizations of national influence that are making important contributions to the advancement of knowledge and practice in cancer control.

As in every other field of medical effort, adequate instruction of the undergraduate and postgraduate physician in the newer knowledge of diagnostic and therapeutic procedure is an essential requirement for the most effective results in the care of the cancer patient. The present activities of the Scientific Service Committee and the Postgraduate Committee of the State Medical Society are important efforts in this direction. The augmentation of cancer courses in medical schools, the conduct of cancer seminars for the surgeon, radiologist and pathologist, the inclusion of cancer symposia in county medical society programs, and the production of scientific cancer literature are desirable features of professional education in the cancer field.

The dissemination of correct information about cancer among the laity is an important phase of cancer control. This is best accomplished through lectures by qualified physicians, such as those provided by the Educational Committee of the State Medical Society, and the distribution of authoritative literature for the general reader. The Illinois Field Army of the American Cancer Society and the Division of Public Health Instruction of the State Depart-

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ment of Public Health are doing important work in this field.

PREPAYMENT MEDICAL CARE PLANS

For a number of months the Illinois State Medical Society has had a Committee on Prepayment Plans for Medical and Surgical Care making an intensive study of all types of plans now operating in all parts of the country, and also of any other possibilities which have been brought to the attention of the committee.

A resolution was approved by our House of Delegates at the 1944 annual meeting requesting the Council to appoint such a committee to make a careful study of all phases of this important problem, then to present a report at the next annual meeting. The resolution when presented before the Council with the recommendations of the House, resulted in the appointment of this Committee with Dr. Charles H. Phifer, Chicago, as the Chairman.

Information has been collected from all parts of the country where any type of plan has been operating. Comments and suggestions from those operating the several types of plans were likewise solicited. Much information was accumulated as a result of these inquiries, as well as from many other sources. The Committee has held a number of meetings which will continue to be held until all available information has been procured. Then the Committee will go over this data carefully and prepare a report to the House of Delegates for whatever action may be deemed advisable.

It was the desire of the Committee to procure information concerning both indemnity and service plans. Conferences have been held with representatives of a number of different types of organizations including insurance companies, many of which have been issuing policies against the hazards of illness and other forms of disability for many years. Groups from industry, business, labor and agriculture have already met with the Committee to give their views on the subject of prepayment medical care. Other groups are scheduled to appear before the committee in the near future.

Probably the majority of state medical societies in this country have developed some plan for prepayment medical care for people in relatively low income groups. If they have not, they are probably making an intensive study at this time with the idea in view of procuring all available information on the subject to be presented before the various societies for whatever action seems advisable. Whether or not a single plan can be developed if desired by the House of Delegates, which would be appropriate for all sections of Illinois, seems rather questionable at this time. The Committee now, is merely a fact finding committee, and may have more to say on this subject later on.

Some plans now in operation give both medical and surgical care as well as obstetrical care; others give surgical and obstetrical care only in hospitals. Physicians in Illinois as well as elsewhere, should give this subject the most careful consideration and be thoroughly informed in every way possible so as to come to the proper conclusions before endeavoring to experiment in a field which has so many ramifications. It is quite obvious that our own Committee will have a most interesting report to present to the House of Delegates at its next session.

PENICILLIN FOR PNEUMOCOCCIC MENINGITIS

Sixteen patients with pneumococcic meningitis were treated with penicillin with nine deaths whereas among 40 patients treated with sulfonamides but not with penicillin there were thirty-seven deaths, four physicians report in *The Journal of the American Medical Association* for February 3. Some of those receiving penicillin also were given either sulfadiazine or sulfamerazine. Twenty-one of the 40 patients given either sulfadiazine or sulfamerazine also were given antipneumococcic serum.

"The two groups," Lewis K. Sweet, M.D., Washington, D. C.; Edith Dumoff-Stanley, M.D., Boston; Harry F. Dowling, M.D., Washington, D. C., and Lieutenant Mark H. Lepper, M.C., A. U. S., say in their report, "were shown to be very similar as regards the factors which are important in evaluating the prognosis. . . . It is concluded that the optimal treatment of pneumococcic meningitis should include the use of penicillin and sulfadiazine or sulfamerazine. . . ."

★ BUY AN EXTRA BOND ★

Medicine's Role in the War Effort

SELECTIVE SERVICE SYSTEM
Illinois State Headquarters
SELECTIVE SERVICE REGULATIONS FOR DEFERRED CLASSIFICATION
March 8, 1945

Selective Service now requires every male physician, between the ages of 18 and 37 inclusive, to personally complete and submit, or have submitted for him by his employer, an "Affidavit for Occupational Classification" *to the Procurement and Assignment Service Committee for Physicians* for certification by that committee and transmittal to the Local Board having jurisdiction over the registrant.

The forms to be used by various age groups, the number of forms to be submitted, and where these forms may be obtained are listed below:

1. DSS Form 42-A (Special-Revised) for male physicians (including male internes) NOT DISQUALIFIED FOR SERVICE; 18 to 29 years of age inclusive: two (2) *triplicate copies* of this form, obtainable from the Procurement and Assignment Service Committee for Physicians, Dr. Harold M. Camp, Monmouth, Ill., or Dr. Harry M. Hedge, 30 No. Michigan Avenue, Chicago, Ill.

2. DSS Form 42-A, *one* original and *one* copy, for male physicians (including internes), 30 to 33 years of age inclusive. This form is obtainable at your Local Board.

3. DSS Form 42: For all male physicians and male internes, 34 to 37 years of age inclusive, *one* original and *one* copy. This form is obtainable at your Local Board.

(a) DSS Form 42 will also be used by all physicians between the ages of 18 and 37 years of age inclusive, who have been DISQUALIFIED FOR SERVICE either on application for commission or at the Armed Forces Induction Station. A physician in this category must indicate on this form, and support with evidence, the fact that he has been disqualified, and by what agency. This form is obtainable at your Local Board.

Deferred classifications are established for a period not to exceed six months. It is the personal responsibility of each physician to submit affidavits shortly before the expiration of each current deferred classification.

All II-A or II-B classifications will be reopened by Local Boards not later than 1 April 1945. No deferred classification will be continued, or established, without an affidavit, certified by Procurement and Assignment Service, being in the hands of the Local Board at the time of consideration for deferred classification.

If the Procurement and Assignment Service Committee *certifies* an affidavit, the affidavit will be forwarded to the Local Board and the copy to State Headquarters.

If the Procurement and Assigment Service Committee does *NOT* certify to the essentiality of the physician, these forms will be returned to the doctor who submits them. The doctor may then submit the forms returned, to the Local Board. No doctor 18 to 37 years of age inclusive will be considered essential and eligible for deferred classification unless his forms are certified by the Procurement and Assignment Service Committee and submitted by the committee to the Local Board.

ARMY RECONDITIONING BASED ON INDIVIDUAL NEEDS

More than 100,000 sick and wounded are now participating in the Army's reconditioning program, in which emphasis is focused on the individual soldier's own interests, his likes or dislikes, talents and background. Mass regimentation is out. Col. Augustus Thorndike is in charge of the reconditioning Division of the Office of the Surgeon General, which was created in July 1943. It is his belief that reconditioning is a new technic in modern military medicine.

The reconditioning program is divided into three broad general phases: physical reconditioning, education reconditioning and occupational therapy. The physical reconditioning phase embraces a scientifically planned schedule of activities, including remedial exercises, bed calisthenics, sports and games, gymnastics, combatives, guerilla exercises, marching and running. All are designed to retard bodily deterioration during

the early stages of convalescence and later to restore the strength, endurance and coordination which go into the makeup of an efficiently performing soldier. Educational reconditioning is intended to augment the medical and surgical cures or repairs with a varied list of subjects which will stimulate the minds of men compelled to lie for weeks or months in a hospital bed, to forestall the mental depression setting in with idleness. Occupational therapy, like the bed exercise and educational activities, starts as soon as the patient is physically able. The mild exercise and mental relaxation of constructive work by bedridden patients has been found to speed up their recovery beyond the rate accomplished by medical care.

Through the efficient functioning of the Medical Division, the Preventive Medical Service and other branches of the Army Medical Department, the Army has reduced the death rate from disease to a figure that is lower than that for any of the ten peacetime years preceding our entrance into the war. The Surgical Service has established a new record in military history by saving the lives of 97 per cent out of every hundred wounded men who reach a hospital alive.

In the same way this latest undertaking of the Medical Department, the Reconditioning Division, has reached the point where 12,000 officers and enlisted patients are returned to active duty every week.

★ ★

PLAN TO INCREASE BED CAPACITY OF ARMY HOSPITALS

Major Gen. George F. Lull, deputy surgeon general, recently announced that plans are nearing completion to increase the bed capacity of the Army's general and convalescent hospital system by 70,000 to care for the additional sick and wounded soldiers returned from overseas. At present the rate of evacuation of casualties to this country is more than 30,000 each month, as compared with the first six months of 1944, when the total was approximately 9,000 a month. One means of providing the additional facilities has been the temporary conversion of four station hospitals to the general and convalescent type. They will be known as U. S. Army general hospitals but not as name general hospitals. These are located at Camp Edwards, Falmouth, Mass.; Camp Pickett, Blackstone, Va.; Camp Butner, Durham, N. C., and Camp Carson, Colorado Springs, Colo.

Another feature of the program will be the expansion of some convalescent hospitals in several of the service commands. After a soldier has been treated at the general hospital which specializes in his particular type of injury, the Army will transfer him to a convalescent hospital. There reconditioning treatment speeds his recovery. This procedure also makes available more general hospital beds for the more serious cases. In addition to the four named, the list of expanded installations includes Camp Upton Convalescent Hospital, Yaphank, L. I., N. Y.; Fort Story Convalescent Hospital, Virginia Beach, Va.; Welch Convalescent Hospital, Daytona Beach, Fla.; Wakeman General and Convalescent Hospital, Camp Atterbury, Ind.; Percy Jones General and Convalescent Hospital, Battle Creek, Mich.; Mitchell Convalescent Hospital, Campo, Calif., and Old Farms Convalescent Hospital, Avon, Conn.

★ ★

MAJOR GENERAL HAWLEY PAYS TRIBUTE TO ARMY NURSE CORPS

Major Gen. Paul Hawley, chief surgeon of the European theater of operations, recently paid high tribute to the Army Nurse Corps on its forty-fourth anniversary, stating that "one of the most glorious pages in the history of the Army Nurse Corps is being written today. . . . Magnificent is the one word that describes the job they are doing."

In commenting on the serious shortage of nurses which exists not only in hospitals overseas but at installations within the United States as well, General Hawley pointed out that the critical lack of nurse reinforcements has forced the Medical Department three times to reduce the number of nurses stationed with each hospital. In 1940 there were 120 nurses to a 1,000 bed army general hospital; in 1943 the number was cut to 105 and in 1944 to 83. At the same time the bed capacity of many hospitals has been increased, with 1,000 bed hospitals carrying an average load of 1,300 patients each. Nurses who have been overseas for more than two years are working twelve, often as long as sixteen, hours a day. "The army nurse is a good soldier; she asks no favors. But she is becoming tired. There is only one solution: we must have more nurses," General Hawley stated.

★ ★

ARMY AWARDS AND COMMENDATIONS

Colonel Marion H. Barker

Col. Marion H. Barker, formerly of Chicago, was recently awarded the Legion of Merit "for exceptionally meritorious conduct in the performance of outstanding services in the North African Theater of Operations from Jan. 21, 1944 until July 8, 1944. Assigned to the study of infectious hepatitis, Colonel Barker devised a comprehensive and effective plan of investigation and discovered valuable new data concerning its diagnosis, progress, treatment and after-effects. By his keen scientific insight and coordinated labors he developed methods of treatment and criteria for the disposition of patients suffering from this disease which prevent undue damage and restore most of those afflicted to their normal activities as healthy individuals rather than as chronic sufferers. The fighting strength of the Army has been measurably increased by this work. The investigations conducted by Colonel Barker are among the outstanding contributions to medical science during this war and are consistent with the highest traditions of research in the Medical Corps of the Army." Dr. Barker graduated from Rush Medical College, Chicago, in 1926 and entered the service Feb. 15, 1942.

Captain Francis H. Fox III

The Bronze Star Medal, for distinctive service with the U. S. Army medical corps in France, was re-

cently awarded to Capt. Francis H. Fox, formerly of Arthur, Ill. Dr. Fox's citation stated that the award was presented for "service in connection with military operation against the enemy from Aug. 8 to Aug. 25, 1944." Dr. Fox graduated from Northwestern University Medical School, Chicago, in 1936 and entered the service March 30, 1940.

★ ★

8,000 WACS FOR HOSPITALS

To meet the grave challenge of mounting casualty lists and the consequently growing shortage of army nurses, General of the Army George C. Marshall has assigned to the Women's Army Corps the recruitment and training of a sufficient number of women to form 103 WAC medical units for assignment to sixty army general hospitals in this country.

To form these WAC medical units and have all 103 of them trained and functioning by midsummer, it will be necessary to enlist approximately 6,500 to 8,000 additional Wacs for work in army hospitals. The plan calls for the recruitment by training platoons of 6,170 women by May 1 for assignment to particular army general hospitals.

An accelerated training program has been set up for those women who come into the WAC for assignment to one of the training platoons. Their period of basic military training will be shortened to four and a half weeks, their course in medical technician school to six weeks, and the final period of their training will be on the job in an army general hospital. Their applicatory training in the hospital will be divided between classroom and duty in the wards for one month after their assignments to the general hospital.

★ ★

COMMISSIONING OF MEDICAL AND DENTAL STUDENTS

Commissioning of medical and dental students in the V-12 Program who are under 21 years of age at the time of their graduation from professional school is defined in a recent release (Navy V-12 Bulletin No. 273) issued by the Bureau of Naval Personnel, Washington, D. C., as follows:

As a result of the accelerated academic programs for medical and dental students in the Navy V-12 Program, it is anticipated that a limited number of such men will complete the requirements for graduation from medical or dental schools prior to their having attained the age of 21. As the laws of practically all the states require that applicants for license to practice medicine and dentistry be 21 years of age, it is considered highly desirable that such a requirement be maintained by the Medical Department of the Navy.

Therefore, in the event that a medical or dental student in the Navy V-12 Program completes his professional academic training before he attains the age of 21, he will be commissioned as Ensign H (P) (probationary) on graduation and will be assigned to active duty under the cognizance of the Bureau of Medicine and Surgery or, at his request, he may be released from active duty status until he has reached the age of 21. The services of such Ensigns H (P) assigned to active duty in the Navy will be utilized in laboratory work or in other duties not involving actual medical or dental treatment until they become 21 years of age, at which time they will be eligible for appointment as Lieutenants (jg), (MC), U. S. Naval Reserve, or Lieutenants (jg), (DC), U. S. Naval Reserve, and assignment to intern training or to general duty.

At the time recommendations for appointment to commissioned status on completion of requirements for graduation from medical or dental schools are forwarded in conformance with the requirements of reference (a), the commanding officer should recommend any man who will not have reached his twenty-first birthday for appointment as Ensign H(P) rather than Lieutenant (jg) (MC) or (DC) and, if the student wishes to exercise the privilege of requesting inactive duty, such written request will be forwarded by the commanding officer to this bureau via the Bureau of Medicine and Surgery.

★ ★

CHANGE IN NAVY NURSE CORPS REGULATIONS

Vice Admiral Ross T. McIntire, Surgeon General of the Navy, recently announced a modification in Nurse Corps regulations which will permit navy nurses now in service to marry without being required to resign. Liberalization of the marriage regulation is expected to help substantially in achieving the Nurse Corps's authorized strength, since more than 80 per cent of all separations from this branch of the service have been due to the marriage bar. The Navy will continue efforts, none the less, to commission 4,000 additional nurses by June 30 in order to meet needs imposed by expanding naval operations. There is no change in present policy which disqualifies married nurses for entrance into the Nurse Corps.

★ ★

NEW PLASTIC ARM SPLINT IN USE BY NAVY

A new plastic arm splint, devised by two naval medical officers to immobilize arm fractures rapidly, is now being shipped from the naval supply depot at Brooklyn to advanced overseas areas for utilization in the evacuation of battle casualties. The splint, made of a light, strong phenolic fabric board which is resistant to moisture, was designed by Captain French R. Moore (MC), U.S.N., head of the Combat Medical Planning branch of the Bureau of Medicine, and Comdr. P. J. O'Donnell (MC), U.S.N.R. With the new type splint all arm and fore arm fractures may be quickly immobilized, thus speeding up preparations for evacuating cases of this kind to rear area hospitals.

Original Articles

A STEP IN CANCER CONTROL

A Review of the First 600 Cases Examined by the Cancer Prevention Clinic

AUGUSTA WEBSTER, M.D., EVANGELINE STENHOUSE, M.D., ELOISE PARSONS, M.D., ALICE PHILLIPS, M.D., PEARL STETLER, M.D., MARGUERITE OLIVER, M.D., MARGARET AUSTIN, M.D., MARIE CONNELLY, M.D., MARIE ORTMAYER, M.D., BEULAH CUSHMAN, M.D.
CHICAGO

The vital statistics have shown a sharp increase in deaths from cancer in the United States in recent years. This is readily understandable because of the increase in skill in modern diagnosis, and the prolonged life span of the general population. The tragedy is that so many of these victims do not present themselves for treatment until the advanced stages of the disease, and hence the most skilled medical care is of little value to them. Diagnosis must be made early, and adequate treatment given, if these deaths are to be reduced.

There are numerous clinics already functioning for treatment and diagnosis of known pathology, but most of these do not make any provision for the apparently normal individuals who are desirous of physical examinations for the purpose of ruling out early cancer. Too often, if symptoms are the impetus which sends the patient to the doctor, the disease has already progressed to a dangerous degree.

Experiments in early detection of cancer through routine physical examinations were conducted recently in New York and Philadelphia. Doctor Elise S. L'Esperance founded, in 1937, the Strange Cancer Prevention Clinic at the New York Infirmary for Women and Children, and in 1940 established similar clinics at the Memorial Hospital. Doctor Catherine Macfarlane and co-workers in the Department of Gynecology of the Women's Medical College of Pennsylvania, in 1938, undertook to determine the value of periodic examinations in the detection of early cancer of the cervix and cancer of the breast.[1]

The American Society for the Control of Cancer has, through its educational unit, the Field Army, been conducting a campaign of lay education, the keynote of which has been thorough, periodic physical examinations, with emphasis on early detection and treatment of cancer, and of lesions suspicious of cancer. Stimulated by the accomplishments of the New York and Philadelphia clinics, and sponsored by the Illinois Division of the Field Army, under the able leadership of Mrs. Arthur I. Edison, State Commander, a Cancer Prevention Clinic was started in Chicago, May 13, 1943. Through the generosity of the board of Women's and Children's Hospital, clinic space was granted for this venture. Appointments are made through the Field Army office at 48 West Division Street, and the medical social workers, nurses, and clerical help are also supplied by the Field Army.

Before the clinic was established a plan of procedure was presented to, and approved by, the Council of the Chicago Medical Society. A committee of five members of the Chicago Medical Society was appointed by the president to

1. Journal A.M.A., Vol. 126, No. 14.

act in an advisory capacity. This committee has continued active, and has rendered valuable aid in establishing standards and policies.

The purpose of this clinic is to provide periodic examinations for apparently well women with a view to the early detection of cancer or pre-cancerous lesions. If suspicious lesions are detected, the patient is sent to her family physician for care. *No treatments* of any type are given by the clinic. Biopsies are not made because it is the belief of the staff that the private physician should have control over the diagnostic procedures, as well as, the plans for treatment. Patients are not accepted for examination who are under treatment for cancer. The purpose of this clinic is to detect early cancer, and to encourage regular examinations. Its purpose is *NOT* to check the diagnosis of other institutions or individual physicians.

The staff is entirely made up of women physicians; twenty-five in all have participated in the program. Dr. Augusta Webster is the Medical Director. The consultants give their time gratis, and represent the various specialists such as Dermatology, Gynecology, Ophthalmology, Otolaryngology, Radiology, General Surgery, Gastro-enterology, and Internal Medicine.

Each patient attends the clinic on two occasions; on the first visit a careful and detailed medical and social history is taken. A complete physical examination is made. Routine laboratory work includes urinalysis, red and white counts, hemoglobin, blood smear, blood serology, as well as, cervical and urethral smears. A fluoroscopic examination of the chest is made on all patients. Those who are able, pay a laboratory fee of five dollars, but anyone who cannot afford the fee is examined without charge.

The findings are summarized for the permanent record, and on the second visit are interpreted for the patient. Reinvestigation is made of any major pathology by one or more consultants, depending upon the nature of the findings on the initial examination. A verbal report is given to the patient, and when an abnormality is found she is told of the nature, but not the extent of the condition, and is advised to consult her family physician regarding care. She is told that her physician may obtain a detailed report of the examination, upon request, if he so desires.

Many constitutional diseases, in no way related to cancer, have been found in the course of the examination, as well as, a few definite malignancies, and a number of suspicious lesions which required further investigation. All of these individuals have been urged to consult doctors of their choice at an early date. Many apprehensive patients with cancer phobia have been reassured after being carefully examined by two or more doctors, and told that they do not have any evidence of cancer.

It is increasingly evident that the public, as the result of lay education on cancer, has been made aware of the desirability of periodic, complete physical examinations. The clinic appointments are now filled for five months in advance, even though patient facilities have been increased to accommodate approximately one hundred new patients each month.

It is the purpose of this paper to report the first six hundred patients who were examined, representing approximately the first year's work. In the interest of accuracy the report is presented in sections, having been prepared by the individual doctors who acted as consultants for the specific conditions found.

DERMATOLOGY

Evangeline Stenhouse, M.D.

The importance of cancer of the skin should be emphasized. Statistics show that approximately 3% of cancers causing death arise in the skin. Cancer of the lip and mouth causes an additional 3.5% of all cancer death, so that more than 6% of such deaths are due to cancer of the skin, lip, or the oral cavity.

In this Cancer Prevention Clinic the patients are referred to the dermatologist by the examining doctor. An attempt is made to limit the referrals to those patients with cutaneous lesions which might possibly be cancerous or precancerous, although all patients with doubtful lesions of the skin are included.

Out of 500 patients seen in the Clinic, 201 were referred to the dermatologist. A dermatological consultant was not available in the period during which the first one hundred patients were examined. Of these 201 patients, 8 had conditions diagnosed clinically as carcinoma, 5 as suspected melanoma, and 12 as precancerous dermatoses.

Clinically Carcinomas. — Of the eight patients with suspected carcinoma, one, aged 70, had an extensive ulcerating basal-celled carcinoma of the scalp. Another patient, aged 74, had typical basal-celled carcinomas on the nose and forehead, and an advanced carcinoma of the pelvis. Both of these patients have since been treated in tumor clinics.

A third patient, aged 66, had a large superficial erythematous basal-celled carcinoma above the left iliac crest, which had been disregarded by several physicians whom she had consulted previously. The diagnosis was verified by biopsy, and treatment was instituted.

Three patients, aged 45, 53, 74, had tumors on the cheek, which clinically were basal-celled carcinomas. One patient, aged 47, had a small tumor at the inner canthus of the right eye. One patient, aged 47, had a superficial lesion on the right breast which was suggestive of an intraepidermal cancer or Bowen's disease. These patients were urged to return to their own physicians at once, and reports were sent to the physicians if the patients desired.

Suspected Melanomas. — Of the five patients with lesions suspected of being melanomas, one, aged 67, had a small, slate gray, elevated tumor on the right cheek. This patient also had numerous pigmented and non-pigmented nevi on the face and back. The second patient, aged 53, who consulted the dermatologist because of Xanthelesma of the upper eyelids, had a dark purplish tumor on the right upper arm. A third patient, aged 59, had a small hemorrhagic tumor on the left index finger, and two patients had small, bluish black tumors on the thigh, which had increased in size recently. All were urged to report at once to their physicians for wide surgical excision and biopsy of the tumors.

Precancerous Dermatoses. — Four patients were found to have keratoses (precancerous) on the hands or face. Eight patients had tumors which could not be diagnosed clinically but which needed microscopic investigation. Of these, two had subcutaneous nodules on the legs and buttocks, and one had a lesion on the shoulder where it was irritated by the shoulder straps. One had a pedunculated non-pigmented tumor on the left cheek which bled easily; one had a small, bluish black tumor on the dorsal aspect of the hand; another had a painful tumor on the arm (with history of carcinoma in the family); another had a small painful tumor embedded within the abdominal wall. The eighth patient had three small hemorrhagic tumors on the right major labium and because of the location and possibility of irritation, surgical excision was advised.

All of these patients were advised to have further medical study.

Pigmented and Non-Pigmented Nevi. — Eighty-five patients were seen with pigmented and non-pigmented nevi. Of these, eight were referred for treatment because of the danger of trauma or infection. One patient had a large verrucous nevus in the inguinal area. Two had pigmented nevi on the face, one on the lower lip and one on the cheek, from which both patients constantly plucked hairs. One patient had a nevus which had recently become scaly, one had a melanotic nevus on the left buttock, one had a pedunculated, pigmented lesion in the inframammary area which had recently become sensitive. The possibility that it might be an accessory nipple was considered. It was emphasized to all the other patients that any enlargement or deepening in the color of any of these lesions should be reported at once to a dermatologist.

Other dermatoses found in these 201 patients were as follows: 15 patients with seborrhoeic keratosis (senile wart) (in two of these patients lesions were noted which showed signs of inflammation. Both were benign on microscopic examination); 5 patients with acne vulgaris; 3 with verruca vulgaris; 4 with lichen simplex chronicus; 4 with sebaceous cysts (2 scalp, 1 cheek, 1 major labium); 6 with fibromas; 3 with psoriasis; 2 with dermatomycosis; 2 with onychomycosis; 10 with lipomas; 10 with papillomas; 7 with senile angiomas; 2 with seborrheic dermatitis; 2 with leukoplakia (questionable); 10 with pruritis ani et vulvaie; and various miscellaneous dermatological conditions such as lupus erythematousus, neurofribromatosis, psoriasis, verruca juvenilis, rosacea, tinea versicolor, purpura and vitiligo.

Three patients were seen with tumors on the gingival mucous membrane. Two of them were under treatment by their dentists. The third had a cystic tumor from which serous fluid exuded. She was advised to secure expert care.

Two patients consulted the dermatologist for observation of sites of treated malignant lesions. In both instances no recurrence was observed, and the patients were reassured.

COMMENTS

Since many of the malignant and premalignant lesions are inconspicious, and escape the attention not only of the patient, but often of the physician, it is advisable to examine the patient completely, while undressed, including the oral mucous membrane and the genitalia.

Cancer of the skin can be controlled more readily than cancer in any other portion of the body. Not only is the skin easily examined, thereby making it possible to detect the tumors in the earliest stages, but treatment is comparatively simple if instituted early.

BREASTS

Eloise Parsons, M.D., Alice Phillips, M.D., Pearl Stetler, M.D.

There were 10 proved cases of carcinoma of the breast found in the first 600 cases examined. The breasts in the patients were carefully examined by palpation and transillumination. No biopsies were taken in the clinic, and no duct injections were made.

Pain in the breasts or sensitive breasts was the complaint of 42 women. There were no findings in 75% of these, and the pain was explained as being of endocrine origin as it was influenced by menstruation. The average age of those complaining of sensitive breasts was 44 years. There were 3 whose pain was located over a rib, and 2 whose pain was due to improper fitting brassieres. One had pain from scars of a dog bite. In no case in which pain was the complaint was there a mass found which required a biopsy, and in only 3 cases a cystic mastitis was found.

Lumps in the breast was the complaint of 26 women. Cystic mastitis was the finding in 8 of these, in 4 the breasts were normal. In 4 cases the diagnosis of carcinoma was obvious, and these already had glands in the axilla.

These were 5 cases in which tumors were found in women who were not conscious of the fact that there was any lump present, four of these proved to be malignant and one a benign cyst.

It is interesting to note that of the 19 breasts on which biopsy was requested, there is a report on 18, only one patient left the city and did not state whether or not she had followed the advice to see her physician in regard to the tumor found. A report of the biopsy on 8 of them proves them to be benign. The remainder have either been treated surgically, or by x-ray, and all are being observed either in approved tumor clinics or by competent private physicians.

There were 12 women who came to the clinic for a check-up on their breasts, who had previous surgery. Eight had breasts removed previously, and 4 had tumors removed. In one instance recurrence was found in axillary glands, and in another metastatic lung lesions were found under the fluoroscope, although no clinical evidence was found.

Previous injury to the breast was a source of worry to 3 women, and in these there were no pathological findings.

There were two pregnancies diagnosed in cases who complained of fluid from the nipple.

One child of 10 years was brought in because of the development of one breast and not the other. Aberrant breast tissue in the axilla was found in 2 patients. Pigmented naevi were present in 2 others.

COMMENTS

The findings prove that simple examination of the breast by trained observers is sufficient to detect carcinoma provided a biopsy is made of suspicious tumors. It also proves that cancer conscious women who are told that they have a tumor in their breast which needs a biopsy will not delay in having it made.

PELVIC EXAMINATIONS

Eloise Parsons, M.D., Alice Phillips, M.D., Marguerite Oliver, M.D.

Gynecological complaints were not the predominating reasons which brought women to the clinic for examination. There were only 16.4% who had any complaint related to the generative tract. The complaints in these 99 women in many cases were multiple and are listed in Table 1.

Examination of the pelvis in women without doing a biopsy of the cervix or endometrial biopsy is unsatisfactory in the diagnosis of early carcinoma. In these first 600 women examined a careful bimanual examination and visualiza-

TABLE 1.

Symptom	Number of Patients
Pain low abdomen or pelvis	13
Backache	6
Profuse Menses	11
Irregular Menses	3
Bloody Discharge (not at menses)	12
Vaginal Discharge	18
Irritation of genitals	8
"Lump in Vagina"	3
"Womb Trouble"	3
Tumor Suspected	12
Dyspareunia	2
Sterility	3
Hot Flashes	15

tion of the vagina and cervix with a strong light was made by the original examiner and repeated in all cases in which there were any abnormal findings by another trained gynecologist. It will be interesting to compare these findings with the next group, in which the same examinations will be made and in addition a vaginal smear for carcinoma cells.

The pelvic findings listed below, include all those examined and not only the few who had complaints.

Finding	Number of Cases
External Genitals	
Kraurosis	1
Senile Pruritis and Vaginitis	16
Sebaceous cyst of labia	3
Lichenification	1
Enlarged Bartholin Gland	4
Urethral Caruncle	3
Vaginal cyst	1
Cystocele (with symptoms)	29
Cervix	
Lacerated or Hypertrophied	16
Erosions	73
Polyps	19
Trichomonas	5
Corpus	
Retroverted	18
Fibroids	35
Prolapse	13
Adnexal Mass or enlarged Ovary	
Right side	4
Left side	5
Bilateral	5
Tumor of Abdominal Wall	1
Stricture of the Vagina	1

Cervical Polyp. — Every patient who had a cervical polyp was advised to have it removed. Fifteen of the nineteen reported back that they had this done. There were no malignant polyps found so far as we know.

Cervical Erosions. — Cervical erosions were found in 73 cases. The patient was informed that the erosion was present, and was advised to have it treated. In only 7 of these was the appearance of the erosion suspicious enough to advise a biopsy. There is no report that a malignant condition was found.

Fibroids. — There were 35 (5.8% of 600) in whom fibroids were found. A number of these were found in women who had no knowledge of their presence. Of those who have had them surgically removed, the pathological diagnosis confirmed that of the original examination. No case of carcinoma or malignancy has been reported in this group.

Trauma of Childbirth. — Lacerated perineums, cystoceles and rectoceles were not considered pathological unless they produced symptoms. One woman aged 63 who had bleeding from a protruding cervix was operated by her family physician and the condition was reported benign.

Vaginal Discharge. — Vaginal discharge, not associated with erosions or polyps, was found to be due to trichomonas in 5 cases. The women were informed that a vaginal discharge was not normal, and were advised to have treatments to effect a cessation of it.

Previous Surgery. — Hysterectomy had been performed on 9 of these patients. In one there was a mass in the pelvis which proved to be a recurrent fibroid. There was a polyp in the cervical stump in one case which was benign. There was an eroded cervix left in one case, and this also proved to be benign. There were 5 who had previous radium treatment, one who had a diagnosis of carcinoma had no evidence of recurrence. There were 2 who had bleeding, 8 and 6 years after radium treatment, in one a curettage was negative, and the other has since had surgery, but no malignancy was found.

Five had, previously, ovarian cysts removed, no recurrence was found.

Vaginal Bleeding. — The twelve cases of vaginal bleeding, not associated with menstruation, were urged to have a diagnostic procedure done without delay. Reports on 6 of these state there was no malignancy found.

One woman of 72 who had a bloody discharge had an inoperable condition, and is receiving paliative treatment at a tumor clinic. One other woman of 55 who had post-menopausal bleeding had a very early adeno-carcinoma of the fundus and a hysterectomy was done.

COMMENTS

There were only 2 cancers found in the generative organs.

Early carcinoma of the cervix cannot be detected without carefully selected biopsies.

The detection of early cancer in the generative tract must be made by educating the patient to be checked regularly, and to note significant changes.

FLUOROSCOPIC FINDINGS

Margaret Austin, M.D., Marie Connelly, M.D.

Analysis of the routine fluoroscopic findings in the first 600 cases examined in the Cancer Prevention Clinic reveals a large number of essentially negative chests — 402 or more than two-thirds of all cases examined. Corrected for those examinees who failed for some reason or other to appear for fluoroscopy after having had physical examinations the total number seen under the screen was 572, which makes the essentially negative fluoroscopic cases 70.7%. Abnormal cardiac silhouettes constituted 117 of the remaining cases; abnormal lung markings 37, and skeletal variations 16, these last named being kyphosis and scoliosis.

The other small group, abnormal lung markings, fell into the following categories:

Calcific Densities	5
Increased hilard or Broncho-vascular Markings	17
Parenchymal Changes	5
Adhesions	5
Mediastinal Shadows	1

In one additional case the fluoroscopy was negative, but the physical examination revealed rales in one lung base. Wherever the fluoroscopic findings were suspicious, chest films were requested; no active pulmonary lesions were found in such films. In only one case was a metastatic lesion seen under the screen; in that patient a mastectomy had been performed for malignancy in 1942, but no physical signs of metastasis were found.

The large number of abnormal cardiac silhouettes is grouped as follows:

Increase in Transverse Diameter of Heart to the Right	12
Increase in Transverse Diameter of Heart to the Left	64
Prominent Pulmonary Conus	27
Aortic Contour (enlargement)	6
Pericardial Adhesions	6
Aortic Variations	
Widening (of all or part of the arch)	10
Tortuosity	9
Calcification	1

It is to be mentioned that "increase in the diameter of the heart to the left" often included an additional note of aortic contour, which is not tabulated separately; "aortic contour" includes only those hearts of normal diameter.

The outstanding feature in the physical findings of those women falling in the second group is hypertension. (Here hypertension was taken arbitrarily to be a systolic blood pressure of 150 or more for women forty years of age or older, and a diastolic pressure of 90 or more for the same age group. Only two blood pressure readings were found in the younger group; 142/100 in a woman of 38, and 150/100 in another of 37). Approximately 55% of the women having cardiac enlargement to the left had hypertension, the readings varying from 160 to 220 systolic pressure, the mean being 180. It is interesting to note that 16 women with blood pressures ranging from 150 to 220, the majority at 160, had no fluoroscopic evidence of heart enlargement, although 3 of these showed aortic arch abnormalities. The remaining cardiac enlargements in this group appeared in women with a physical notation of obesity.

In four cases the hearts listed as having a prominence of the pulmonary conus presented apical heart murmurs; the others had no cardiac or pulmonary physical findings.

GASTROINTESTINAL RESUME'

Marie Ortmayer, M.D.

It is generally agreed by physicians that from 40% to 60% of patients have symptoms in the gastrointestinal tract, and by specialists in that field, that from 60% to 80% in their practices have functional disturbances. In our group of the first 600 patients 152 women registered some sort of complaint or finding in the G. I. tract. 19 were immediately called "Functional" with-

out further study recommended. 91 were referred for gastrointestinal study to their own physicians. The remainder had obvious pathology.

Positive findings were recorded as follows:

1 cauliflower-like mass in the rectal ampulla (clinically carcinoma)
5 tumors other than carcinoma (4 anal; 2 abdominal)
22 hemorrhoids
1 prolapsus recti
4 anal fissures or fistula
3 cryptitis or papillitis
19 rectoceles
9 herinas (post-operative, femoral, inguinal or vaginal)
2 inadequate anal sphincters
1 post-operative stricture of anal canal
1 tapeworm
1 appendicitis (lowgrade)
1 questionable Addisons Disease

To rule out, or to diagnose, gastrointestinal tumor by complete physical examination and history only, is obviously unsatisfactory, and it is surprising that so few as 91 (about 15%) were referred for gastrointestinal study with its attendant endoscopic, laboratory and x-ray studies. No doubt others among the 600 patients deserved such workups. In the field of patients with anemia, for instance, there were at least 11 in whom no adequate explanation for the anemia had been shown. These could well have been included in the group referred for complete gastrointestinal study, since the anemias were sufficiently marked to suggest bleeding from unknown source.

The women who come for this examination in the Cancer Prevention Clinic wish assurance that they do not have cancer, or wish to find it early. A large proportion of them have had relatives in their own generation or in the two preceding generations who have had cancer. 166 of these women gave a history of cancer in the family, often in several members. 59 did not know the location of the reported cancers, but among the remainder who located them, 36 said they were "stomach cancers" and 11 "bowel cancers." These figures are for obvious reasons unreliable, but they show that a high incidence of cancer in the families of the Clinic's patients may be a reason for the fear of cancer and the determination to seek aid in detecting it early.

Cancer in the hollow organs, such as the stomach and bowel, cannot be located early except with meticulous study. It would be interesting to know if such a study in the apparently "normal" woman, even the one without symptoms, would detect sufficient numbers of gastrointestinal tumors to justify the time and expense involved.

EYE EXAMINATION

Beulah Cushman, M.D.

In the routine eye examination the vision was recorded with and without glasses. Any pigmented spots in the conjuctiva or iris were located on a diagram. The optic nerve and media were examined through the undilated pupil.

In the 600 patients examined, 14 were found who had one or more pigmented nodules on the anterior surface of the iris of each eye, and 10 patients were found to have pigmented nodules on the anterior surface of the iris of one eye. They were called freckles of the iris. They were in patients with irides of hazel to tan shades, none were found in a true blue iris.

Tumors of the eye are rare, and any intraocular lesions will cause visual symptoms sooner or later and these patients will go to the eye physician directly.

SUMMARY

A review of the findings of the first 600 patients examined at the Cancer Prevention Clinic is presented.

No treatments are given at the clinic, and no biopsies are made.

Patients are referred to their private physicians for further diagnostic study and for treatment.

The number of positive malignancies is probably greater than reported, because not all of the private physicians have given us their findings.

Eight patients had skin lesions that were clinically carcinomas.

Five patients had suspected melanomas, and biopsies were advised.

Nineteen patients were advised to have breast biopsies. Eighteen of these complied, and eight proved to be carcinomas. Three of these eight were not aware of any breast pathology.

Two recurrences of breast malignancies were found. One had axillary glands, and the other had multiple metastatic tumors in the lung.

Seven patients were advised to have cervical biopsies. No positive reports have been received from this group.

Twelve patients had bleeding not associated with the menses, and were advised to consult their doctors. One of these was reported back as adeno-carcinoma of the fundus; another had an inoperable pelvic condition, and is receiving paliative therapy.

One patient had a friable, cauliflower-like mass in the rectal ampulla.

Numerous pathological conditions were found which were in no way related to cancer. These women were referred to their physicians for care.

CONCLUSION

Routine physical examinations of apparently well women are useful in the detection and control of cancer.

THE PATHOLOGIC BASIS FOR THE CLINICAL MANIFESTATIONS IN NEPHRITIS

James P. Simonds, M.D.
CHICAGO

The kidneys perform several functions that are essential to the health and well-being of the individual. By filtration through the glomeruli they remove a watery solution of crystalloids, including waste products, from the blood. Reabsorption by the tubules returns to the blood stream substances, e.g., glucose and water, which the body cannot afford to lose. By transforming alkaline phosphate into acid phosphate, by manufacturing ammonia from urea and by dissociating considerable amounts of the salts of diacetic and beta oxy-butyric acids in diabetic ketosis, the kidneys aid in maintaining the alkali reserve and the acid-base balance of the body. They are directly, but to a greater extent indirectly, concerned in maintaining the water balance of the body. Renal ischemia or, as Page believes, an abnormal pulse pressure in the kidneys, is somehow concerned with increasing blood pressure.

Non-suppurative nephritis (Bright's disease) and vascular nephropathy affect these functions of the kidneys in varying degrees. These renal diseases manifest themselves by one or more of the following symptoms: albuminuria, edema, retention of nitrogenous waste products and hypertension. The underlying pathologic changes in glomerulonephritis and in vascular nephropathy are quite distinctive, and they can be easily differentiated microscopically. The clinical pictures and the mechanisms of death of the two types are usually clear. Glomerulonephritis is accompanied by albuminuria, sometimes massive in character and in some cases nephrotic edema results; the urea, non-protein nitrogen and creatinine of the blood reach high levels, and the usual termination is death from uremia. Vascular nephropathy, on the other hand, is associated with hypertension; nitrogen retention is usually not marked and death is most commonly due to congestive heart failure or to cerebral hemorrhage. But patients with glomerulonephritis sometimes die from congestive heart failure or cerebral hemorrhage; and those with vascular nephropathy occasionally succumb to uremia.

It is the purpose of this paper to explain the mechanism of the symptoms characteristic of each type of renal disease on the basis of the pathological changes in the kidneys. It should then be possible to understand why some cases of one type run an atypical course with the clinical manifestations of the other.

Each organ of the body functions through the medium of its own peculiar characteristic structural pattern. Alterations in this structural pattern induced by disease are the causes of the disturbances in function which are the symptoms of the disease. It is necessary, therefore, to review very briefly the anatomy and physiology of the kidneys.

Each human kidney is composed of approximately 1,000,000 anatomical and physiological units, or nephrons. Each unit consists of an afferent artery which breaks up into capillaries which form the glomerulus. This structure is invaginated into the upper end of a relatively long, tortuous tubule which is divided into a proximal convoluted portion, a hair-pin shaped portion or Henle's loop, and a shorter distal convoluted segment. The last of these discharges the finished product, urine, into the straight col-

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From the Department of Pathology, Northwestern University Medical School. Read before Joint Session on Medicine, Surgery, Public Health and, Hygiene, Radiology, Obstetrics and Gynecology, and Pathology of Illinois State Medical Society, May 18, 1944.

lecting tubules through which it reaches the renal pelvis and thence the bladder.

The functional ability of the kidneys depends in a very peculiar way upon their blood supply, which is very abundant and amounts to about one liter per minute. Ninety percent or more of the blood entering these organs passes through the glomeruli. The unit system of the kidneys extends into the pattern of their circulation, for the blood which leaves a glomerulus supplies, through a second system of capillaries, the tubule which comes off from the glomerulus. Hence interference with the circulation through a glomerulus will alter the blood supply to its corresponding tubule and result in its atrophy or complete disappearance. Not only is the blood supply of the kidneys abundant, but, because of the peculiar arrangement of the renal arteries and their branches, the hydrostatic pressure of the blood in the glomerular capillaries is higher than that in any other system of capillaries in the body.

The walls of the glomeruli are semipermeable membranes, i.e., they permit the passage through them of water and crystalloids in solution, but prevent the passage of colloids, such as the plasma proteins. Glomerular filtration is a purely passive process. In accomplishing it the kidneys themselves do no work. The energy for this process is furnished by the heart by maintaining the hydrostatic pressure of the blood in the glomerular capillaries. But only a part of this pressure is available for filtration, because about one-third of it is counteracted by the opposing osmotic pressure of the plasma proteins. The "effective filtration pressure" is believed to be about 45 millimeters of mercury. As long as a glomerulus receives a sufficient amount of blood under an adequate filtration pressure, it will perform its function of filtering waste products from the blood. As long as the blood supply to the glomerulus is sufficient in amount and pressure for filtration, it will also be adequate to maintain the functions of reabsorption, transformation, manufacture and dissociation of the tubules.

It may, therefore, be stated as a general principle that the fundamental basis of renal insufficiency is a disturbance of the renal circulation that reduces the blood supply to the glomeruli. This may be due either to changes in the arterioles that prevent access of a sufficient quantity of blood to the glomeruli, or to changes in the glomeruli themselves that render their capillaries impervious to blood.

Long continued clinical hypertension is almost invariably due to some disturbance of the circulation in the kidneys. This may be either ischemia, as suggested by Goldblatt, or reduction of pulse pressure within the kidneys, or to some other less well understood alteration of the flow of the blood through these organs. Inasmuch as alterations in the renal circulation occur in both glomerulonephritis and in the vascular nephropathy, hypertension occurs in both these types of renal disease. The circulatory disturbance causes the kidneys to produce renin which is activated in the blood stream to angiotonin which, in turn, causes vasoconstriction. Although the basic pathology in the kidneys in vascular nephropathy and in glomerulonephritis are quite different in kind, both have similar effects on the renal circulation and both are associated with hypertension.

The lesion in vascular nephropathy probably develops in three stages. In the first stage the change is apparently a purely functional vasoconstriction and is therefore not readily demonstrable as a structural change. The prolonged constriction of the arterioles and the accompanying rise in blood pressure causes the development of the second stage, characterized by hypertrophy of the muscular coat and hyperplasia of the elastic lamina of the afferent arteries. Continued constriction of the hypertrophied muscular coat may interfere with the nutrition of the walls of the vessels and thus leads to the third stage, namely, hyaline degeneration of the arterioles. Hypertension which has existed for a sufficient time is almost invariably associated with one or both of the easily demonstrable structural changes characteristic of the second and third stages.

Differentiation of the three stages of essential hypertension has important implications in the treatment of this condition. During the first and second stages, the muscular coats of the arterioles are capable of responding to vasomotor impulses and they may be made to dilate and thus lower arterial pressure. But when the arterioles have become mere structureless, hyaline tubes they are incapable of re-

sponding to vasomotor impulses and can no longer either contract or dilate. Therapy of any kind in the third stage is likely, therefore, to be ineffective. The changes in functional capability of the walls of the arterioles in the different stages of vascular nephropathy may, therefore, be a factor (1) in the variable response of different hypertensive patients to such depressor substances as sodium thiocyanate and colloidal sulphur, and (2) in the unpredictable results of sympathectomy as a mode of treatment of hypertension.

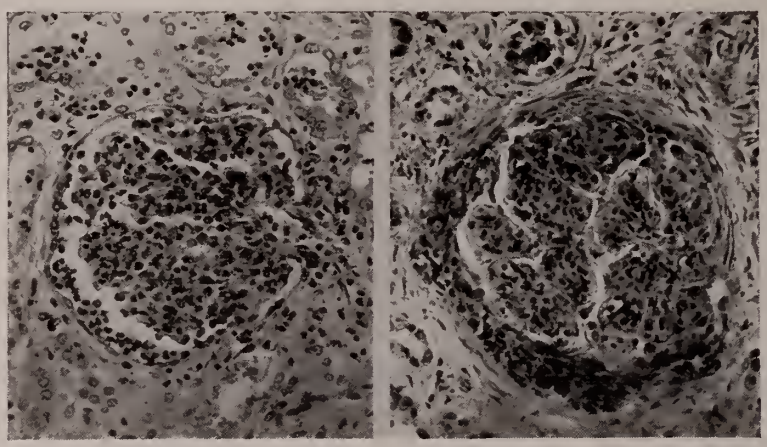


Figure 1a. Figure 1b.

Figure 1a. Exudative type of acute glomerulonephritis from a case of scarlatina. Note the polymorphonuclear leucocytes in the glomerular capillaries, in the capsular space and in the tubules, indicating free drainage.

Figure 1b. Proliferative type of acute (or subacute) glomerulonephritis. Note the hypercellularity, the lobulation and the bloodlessness of the capillary loops of the glomerulus.

While the alterations in the circulation in the kidneys in essential hypertentions are obviously due to the functional or structural changes in the arterioles, the renal circulatory disturbances in glomerulonephritis are the result of changes in the glomeruli themselves. In the glomeruli two characteristic types of inflammatory reaction are seen. In some forms of acute nephritis, as for example, that which follows scarlet fever, the reaction is exudative in character. (Figure 1a) Free drainage down the tubule permits removal of the exudate as rapidly as it is formed. For this reason this type of nephritis usually runs an acute course and ends in complete recovery. On the other hand, in some cases the inflammatory reaction is proliferative, rather than exudative, (Figure 1b). Proliferation of the endothelium of the glomerular capillaries, causes a marked disturbance in the circulation of blood not only through the glomeruli themselves but also through the system of capillaries upon which the tubules are dependent for nutrition and oxygen. This structural change in the glomeruli is permanent, the successive involvement of glomeruli is continuous and the resulting hypertension is progressive.

The following cases illustrate the fact that each type of renal disease is associated with hypertension and patients with either type may die from uremia, from congestive heart failure, from cerebral hemorrhage, or from a combination of congestive heart failure and renal insufficiency. None of these patients had disease of the heart valves or coronary arteries.

Case 1. Male. Age 54. Onset with dyspnoea six months before death, with frequent vomiting and headache. Edema of the ankles began two months before death, increased steadily until, in the last few weeks of life, it became massive and generalized. Blood pressure ranged from 220/140 to 235/145. Urinalysis: — Specific gravity, 1.015; small amount of albumin and a few hyaline and granular casts. Blood chemistry: — N. P. N. 66.7, B. U. N. 25.6, creatinine, 2.6, mg. percent.

Autopsy: — Generalized edema; ascites; bilateral hydrothorax. Passive congestion of lungs, liver and

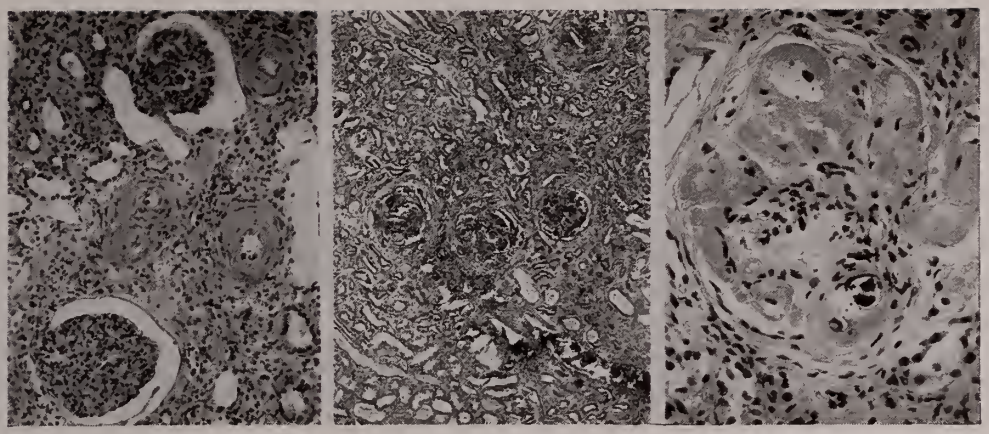


Figure 2a. Figure 2b. Figure 2c.

Figure 2a. Case 1. Arteriolonephrosclerosis. Note the hypertrophied walls of the arterioles — second stage of the vascular change in hypertension — and the well preserved glomeruli.

Figure 2b. Case 2. Chronic glomerulonephritis with hypertension. Note the proliferative changes in the glomeruli that interfere with circulation in the kidneys, a structural basis of hypertension.

Figure 2c. Case 3. Arteriolonephrosclerosis. Note the hyaline wall of the arteriole (right center) which is the third stage in the vascular changes in hypertension; and the hyaline thickening of the walls of the glomerular capillaries, the basis of renal insufficiency in this case.

spleen. Heart weighed 550 grams; kidneys, 90 grams each.

Diagnosis: Arteriolonephrosclerosis, second stage (Figure 2a); hypertension; hypertrophy of the heart with congestive heart failure; moderate renal insufficiency.

Comment: The microscopic changes in the kidneys of this patient were those characteristic of the second stage of long continued hypertension. Although the kidneys were not functioning normally, the nonprotein nitrogenous constituents of the blood had not reached definitely dangerous levels. Death resulted from congestive failure of the markedly hypertrophied heart.

Case 2. Male. Age 21. Entered the hospital in a state of congestive heart failure, with marked edema and dyspnoea and died six hours after admission. No satisfactory history was obtained.

Autopsy: Generalized edema; ascites; bilateral hydrothorax. Heart weighed 510 grams; kidneys, 240 and 250 grams, respectively.

Diagnosis: Chronic glomerulonephritis (Figure 2b); hypertension; hypertrophy of the heart with congestive heart failure.

Comment: In microscopic sections of the kidneys of this patient the small arteries and arterioles do not stand out with marked prominence as in Case 1. The obstruction to renal blood flow, therefore, was in the glomeruli themselves and not in the blood vessels. Four glomeruli are shown in Fig. 2b. They are hypercellular and almost bloodless. This patient probably suffered renal insufficiency, but the effects of his hypertension were more marked and death resulted from congestive failure of the hypertrophied heart.

Case 3. Male. Age 72. Entered hospital in a state of congestive heart failure. Blood pressure 150/86. Trace of albumin in the urine. Mosenthal test meal: Day urine, 522 c.c. with a specific gravity ranging from 1.008 to 1.010; night urine, 500 c.c. with specific gravity of 1.011. Blood chemistry; B. U. N. 122, creatinine, 10 mg. per cent.

Autopsy: Generalized edema; hydrothorax. Heart weighed 590 grams; kidneys, 70 and 80 grams respectively.

Diagnosis: Arteriolonephrosclerosis, third stage (Figure 2c); hypertension; hypertrophy of the heart with congestive heart failure; renal failure and uremia.

Comment: The kidneys of this patient showed the changes in the arterioles characteristic of vascular nephropathy. The thickening and hyalinization of the walls of the afferent arterioles extended into the glomeruli, involved the walls of their capillaries and thus reduced their capacity for filtration. The blood pressure recorded was not exceptionally high, but the marked hypertrophy of the heart is evidence that the pressure had been much higher. The renal failure in this case was the combined result of the changes in the glomeruli and the reduction in systemic blood pressure which rendered it impossible for sufficient blood under adequate filtration pressure to reach any remaining permeable glomeruli.

In chronic glomerulonephritis the characteristic alterations in the glomeruli are marked by increased cellularity and varying degrees of

bloodlessness. These changes produce two important results. In the first place they interfere with the renal circulation and thus furnish a structural basis for hypertension. These changes also reduce the quantity of blood which can pass through the affected glomeruli and, by thickening of their walls, hinder the free filtration from such blood as may enter capillary loops that are still pervious. Both of the clinical manifestations of chronic glomerulonephritis — hypertension and retention of nitrogenous waste products — progress simultaneously but at different rates. Case 2 above illustrates the fact that in chronic glomerulonephritis the effects of hypertension may exceed the tendency to nitrogen retention and death results from congestive heart failure. On the other hand in Case 3 with a typical microscopic picture in the kidneys of long continued hypertension, nitrogen retention developed, probably due in part to the reduction in blood pressure, and death resulted from the combined effects of hypertension (congestive heart failure) and renal insufficiency (uremia).

The following three cases illustrate the more usual course of chronic glomerulonephritis, ending in uremia, but at the same time accompanied by some degree of hypertension.

Case 4. Male. Age 22. One year before death this patient was in the hospital for a few days with abdominal pain, diarrhea and loss of weight. At that time albuminuria was discovered, and the blood pressure was 124/70. Five days before death he was found unconscious with tonic and clonic convulsions. His blood pressure at this time was 178/128, a rise of 54 mm. Hg. in the systolic pressure above that of a year previous. Urinalysis: Specific gravity, 1.011 to 1.015; albumin 3 plus; hyaline casts. Blood chemistry was not done because it was thought that he was suffering from some lesion of the brain. The spinal fluid was negative.

Autopsy: Slight edema of the brain, but none elsewhere in the body. The heart weighed 370 grams; the kidneys, 150 grams each.

Diagnosis: Chronic glomerulonephritis with marked fatty changes in the tubular epithelium (Figure 3a); moderate hypertension; probable uremia.

Comment: The kidneys of this patient showed the characteristic microscopic picture of chronic glomerulonephritis with hypercellular and almost bloodless glomeruli. These glomerular changes interfered with the circulation through the kidneys and furnish a structural basis for the hypertension that was observed. However, the hypertension had not reached extreme levels, had existed for somewhat less than a year and the heart was not definitely hypertrophied. There was no evidence either clinically or at autopsy of congestive heart failure. Although the non-protein nitrogen of the blood was not determined the changes in the glomeruli were so marked and so extensive that it appears safe to assume that death resulted from uremia.

Case 5. Male. Age 30. The onset occured five years before death with lumbar pain; cloudy, sometimes blood-tinged urine; some swelling of the face; and numbness of the extremities. He entered the hospital two weeks before death complaining of general weakness, pains in various parts of the body and occasional vomiting. Urinalysis: Specific gravity, 1.010; albumin; many granular casts. Blood chemistry; N. P. N. 100, creatinine, 6.43 mg. per cent. Blood pressure was not recorded.

Autopsy: The heart weighed 450 grams, the kidneys 90 grams each. Slight ascites, chronic adhesive pericarditis and terminal bronchopneumonia were also present.

Diagnosis: Chronic glomerulonephritis (Figure 3b); moderate hypertrophy of the heart; renal insufficiency; uremia.

Comment: In miscroscopic sections many glomeruli had been completely transformed into hylaine scars. Most of those that remained were very cellular and contained little blood. In spite of the prolonged course of the disease — five years — vascular changes in the renal arteries and arterioles were not a prominent part of the microscopic picture. Hypertrophy of the heart was only moderate in degree. During his final stay in the hospital he was in a uremic state although the immediate cause of death was probably the bronchopneumonia.

Case 6. Female. Age 34. Two and a half years before death, this patient developed a slight edema of the face, albuminuria, with a few red blood cells and granular casts in the urine. These symptoms came on seven days after a slight sore throat. The acute symptoms subsided in about ten days, but the albuminuria continued and became massive. The serum albumin of the blood progressively diminished, marked generalized edema developed and progressed for about six months. During this period the blood chemistry was normal. With a high protein diet and sixty-eight transfusions over a period of six months the serum proteins increased and the edema disappeared. During the following six months the albuminuria decreased. Two years after the onset the urea clearance diminished; nitrogen retention began and steadily increased; hypertension developed; and the patient died in uremia two and a half years after the onset of the disease.

Autopsy: A complete record of the postmortem examination is not available. The heart was said to be moderately hypertrophied; the kidneys were small.

Diagnosis: Chronic glomerulonephritis, very late stage (Figure 3c) with most of the glomeruli reduced to hyaline scars and marked atrophy and complete disappearance of most of the tubules; previous

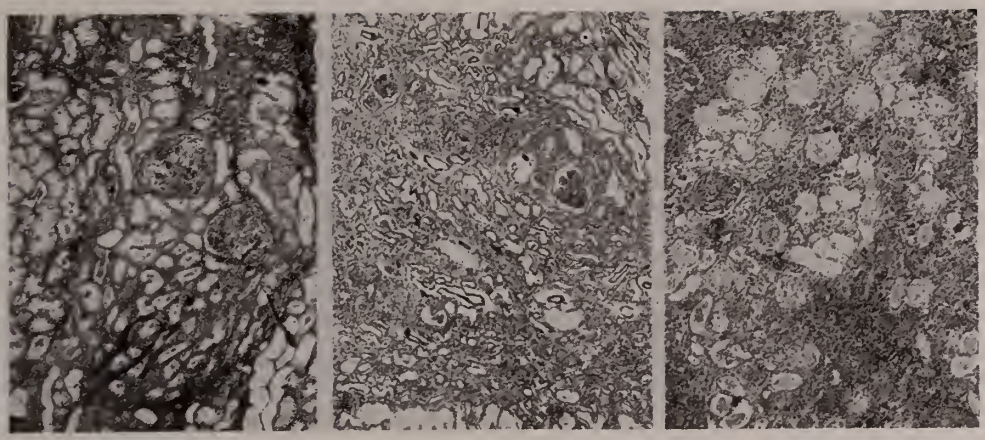


Figure 3a. Figure 3b. Figure 3c.

Figure 3a. Case 4. Chronic glomerulonephritis with uremia. Slight hypertension. Note the proliferative changes in the glomeruli that interfere with circulation (basis of hypertension) and with filtration (basis of renal insufficiency.)

Figure 3b. Case 5. Chronic glomerulonephritis of five years duration. Note the shrunken, bloodless glomeruli, the basis of renal insufficiency.

Figure 3c. Case 6. Very late stage of progressive glomerulonephritis with uremia. None of the glomeruli in the field are normal, and of the 17 visible only three appear capable of receiving any blood.

typical nephrotic edema; later hypertension and uremia.

Comment: This case illustrates most of the events that may occur in the course of chronic glomerulonephritis. It differs from the usual case chiefly in its definite onset. Of particular interest was the occurrence of edema at two stages of the disease.

In the acute period, toxic injury of the capillaries of the body increased their permeability, permitting serum albumin to escape through the capillary walls where it held sufficient water in the tissue spaces to permit the formation of visible edema in the loose tissues of the face. When the capillaries regained their normal selective permeability, this edema disappeared.

The mechanism of other types of edema are somewhat more complicated. A normal exchange of fluid constantly occurs between the blood in the capillaries and the surrounding tissues. Three factors concerned in this exchange are, the hydrostatic pressure of the blood in these vessels, the osmotic pressure of the plasma proteins, and the area of capillary wall upon which they exert their effects. The first of these tends to drive water from the blood into the tissues; the second to draw water from the tissues into the blood. The hydrostatic pressure falls during the course of the blood through the capillaries while the osmotic pressure remains essentially constant. The neutral point at which the two pressures are equal is so situated normally that the quantity of water leaving the capillaries is nearly equal to that which returns to the blood. This balance may be upset either by a delayed fall in hydrostatic pressure or by a lowering of the concentration of the plasma proteins. The first of these is the mechanism of cardiac, the second, that of nephrotic, edema.

The prolonged massive albuminuria in this patient produced a negative balance in the plasma proteins, for the body was losing them in the urine more rapidly than it could reproduce them. Ultimately, the plasma proteins (particularly serum albumin) fell below a critical level and the neutral point was shifted so far toward the venous ends of the capillaries that more water was driven into the tissues by the hydrostatic pressure of the blood than could be drawn back from them by the lowered osmotic pressure of the plasma proteins. This was typical nephrotic edema. In this case a high protein diet and numerous transfusions aided in supplying the needed plasma proteins and the edema disappeared at an earlier date than might have occurred otherwise. But there was another factor in the disappearance of the edema. As the disease progressed more and more glomeruli were destroyed. Finally a stage was reached when the number of functioning glomeruli, through which serum albumin was lost, was so diminished that the daily loss of plasma proteins became less than the capacity of the body to rebuild them. The level of plasma proteins was gradually increased above the critical level and the edema disappeared spontaneously. Thus, the disappearance of nephrotic edema may not be a sign of improvement, but, rather, of increasing severity of the disease.

The available records (death occurred in another state) do not indicate whether this patient again developed edema in the terminal stages of the disease. But since this does occur in some cases of chronic glomerulonephritis a few remarks concerning it may be pertinent. Inasmuch as most patients with very chronic glomerulonephritis suffer from hypertension, they may develop congestive heart failure and thus

become victims of cardiac edema. In congestive heart failure, the increased venous pressure causes a slower fall in hydrostatic pressure of the blood in its course through the capillaries. The neutral point at which the hydrostatic and osmotic pressures are equal is shifted toward the venous end of the capillaries. More water therefore escapes from the capillaries into the tissues than can be drawn back into the blood stream through the diminished area of capillary walls through which the plasma proteins can exert their effect. This is cardiac edema.

Since a patient with chronic glomerulonephritis nephritis may develop edema at three stages in the course of the disease, each with a different mechanism, the term "nephritis with edema" may be misleading.

SUMMARY

1. Each kidney is composed of approximately one million units, each unit essentially complete in itself, with its characteristic anatomic structure, its functions and its own blood supply. The different parts of each unit probably perform the following functions. The glomeruli furnish a filtrate consisting of a solution not only of waste products but of all the crystalloidal substances in the plasma. The proximal convoluted tubules, by selective reabsorption, return to the blood substances which the body can ill afford to lose. Henle's loop reabsorbs water and concentrates the urine. The distal convoluted tubules alter the reaction of the urine and thus conserve alkali reserve and maintain the acid-base balance of the body. The parts of each unit are interrelated through their common blood supply which consists of two systems of capillaries — the glomerular and the peritublar. Interference with the blood supply of the glomeruli will also affect that of the tubules. Hence in disease of the kidneys the unit suffers as a whole.

2. The two chief types of non-suppurative renal disease are (a) glomerulonephritis (Bright's disease) and (b) vascular nephropathy. Although these two types differ markedly in their basic pathology, both interfere with the circulation through the kidneys. Vascular nephropathy is associated with hypertension and death usually results from congestive heart failure or from cerebral hemorrhage. Glomerulonephritis, because the changes in the glomeruli reduce filtration, usually ends in uremia. But occasional patients with vascular nephropathy die from renal insufficiency, while those with glomerulonephritis sometimes succumb to congestive heart failure. The six cases reported above illustrate the mechanisms by which either type of disease may run an atypical course with the clinical manifestations of the other.

3. In the early stages of glomerulonephritis, the inflammatory reactions in the glomeruli may be either exudative or proliferative in character. The exudative form, because of free drainage through the tubules, usually heals without serious consequences. The proliferative lesion, unless from some unknown reason the process ends spontaneously, progresses to a fatal termination.

4. Patients with glomerulonephritis frequently suffer from edema. This edema may occur in three different stages of the disease, and its mechanism is different in each stage. In acute glomerulonephritis the systemic capillaries are injured, their walls become more permeable and serum albumin escapes into the tissues where it holds water thus giving rise to edema. In the nephrotic stage the serum proteins become depleted as a result of loss of serum albumin in the urine. When the quantity of serum albumin in the plasma falls below a critical level, the normal balance between the hydrostatic pressure of the blood and the osmotic pressure of the plasma proteins is so disturbed that more water leaves the capillaries than returns to them and edema of the tissues results. Later, the nephrotic edema disappears spontaneously. This is not a sign of improvement because it is due to progressive destruction of glomeruli. In the very late stages of chronic glomerulonephritis, hypertension develops and cardiac edema may follow the onset of congestive heart failure. The edema of vascular nephropathy is due to congestive heart failure.

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago 2, Illinois enclosing label from a copy showing your old address. Changes received after the 1st of the month will not go into effect until the following month.

CERTAIN ASPECTS OF THE NEWER INSULINS

HENRY T. RICKETTS, M.D.
CHICAGO

Crystalline Insulin — The physiologic effects of crystalline insulin, known technically as "insulin made from zinc insulin crystals," are so similar to those of regular or standard insulin that for practical purposes the two can be considered identical[1,2]. With both preparations the blood sugar starts to fall within 15 to 30 minutes after injection and, if food is not given, reaches its minimum in from 4 to 6 hours (Figure 1.). Since the crystalline product is

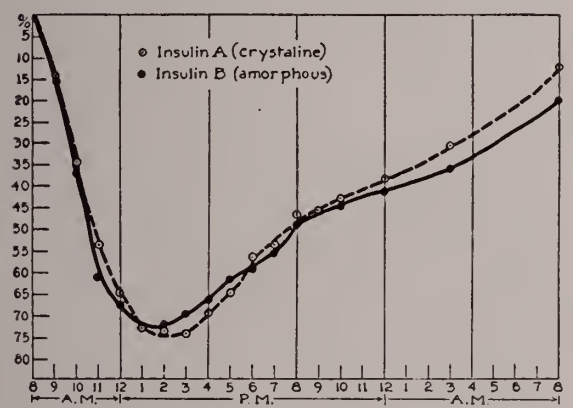


Chart 2.—Percentage of fall in values for blood sugar after injection of insulin A and insulin B. Each point represents the average of the results in from six to five patients (lines 3 and 4 in the table). The two insulins were tested on each subject.

Figure 1. (From Ricketts, H. T. and R. M. Wilder. J.AM.A. 113:1310. 1939.)

chemically purer and no more expensive, it would seem wise to employ it to the exclusion of regular insulin when a quickly acting substance is desired. This form of insulin is now used principally as an adjunct to protamine zinc insulin, either injected separately or mixed with the latter, and as the agent of choice in diabetic emergencies such as acidosis and surgical operations.

Protamine Zinc Insulin. — The key to an understanding of protamine zinc insulin is that, when given daily, its action is relatively constant throughout the 24 hours. The common statement that its hypoglycemic effect is slow in onset and reaches maximum intensity in from 18 to 24 hours after injection is true only for the first dose. The constancy of action of protamine zinc insulin was demonstrated in a series of hospitalized patients by first giving them their insulin in the morning for several days and then in the evening for a similar length of time[3]. Blood sugar curves were constructed for each period on the basis of samples taken four times daily. It was reasoned that if the curves obtained as a result of the morning injections were similar to those obtained by the evening injections, the activity of the insulin could be regarded as constant. If, on the other hand, the two curves differed widely, it could be assumed that no constancy of action was involved. The

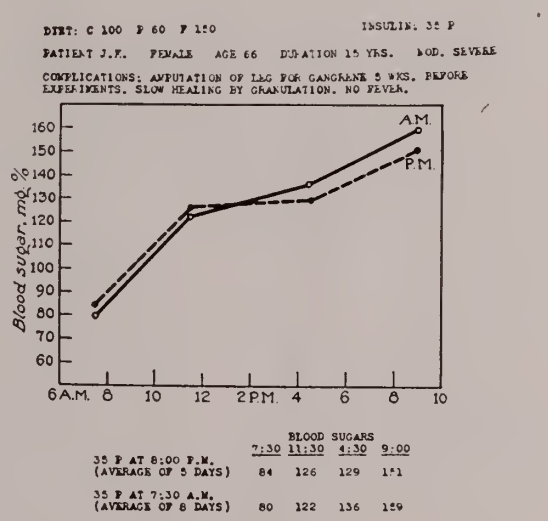


Figure 2. (From Ricketts, H. T. Am. J. Med. Sci. 201:51. 1941.) Blood sugar curves with protamine zinc insulin given in the morning (A.M.) and in the evening (P.M.).

results are shown in Figure 2 and Figure 3, which are illustrative of all but one of the patients studied. The charts show that essentially the same daily blood sugar curve results, regardless of whether the protamine zinc insulin is given in the morning or in the evening. In Figure 3, moreover, it is evident that the curves obtained with protamine zinc insulin given either in the morning or in the evening (Curves PA and PP) are similar in shape, although at a lower level, to the curve obtained when no insulin was given (Curve X). The glycemic level was apparently lowered *in toto* by the protamine zinc insulin, a phenomenon which could only have occurred if this substance had been acting

From the Department of Medicine, School of Medicine, and the Frank Billings Medical Clinic, University of Chicago. (Condensed from a paper read before the Academy of Medicine, Cleveland, Ohio, February 18, 1944.)

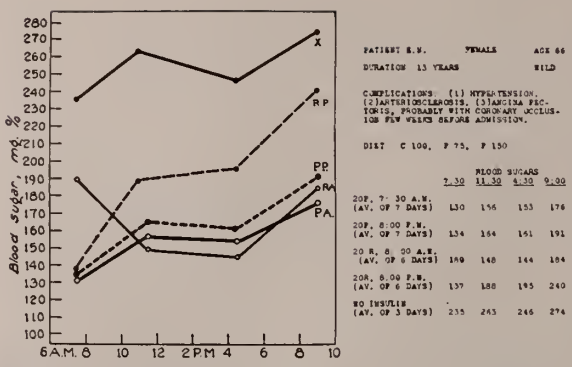


Figure 3. (From Ricketts, H. T. Am. J. Med. Sci. 201:51. 1941. Blood sugar curves with protamine zinc insulin, regular insulin and with no insulin. P.A. — protamine zinc insulin given in the morning. P.P. — protamine zinc insulin given in the evening. R.A. — Regular insulin given in the morning. R.P. — regular insulin given in the evening. X — no insulin.

with unvarying intensity throughout each 24-hour period. That an insulin preparation (regular) which does not possess this constancy of action will produce dissimilar curves when given in the morning and in the evening is evident from Curves RA and RP.

The constancy of action of protamine zinc insulin, established independently by Mark[4], holds certain practical implications for the clinician:

1. It means that this form of insulin should no longer be regarded as having a period of maximum effectiveness. Although it is true that when given as a single dose to patients not receiving food it lowers the blood sugar to its minimum in from 12 to 18 hours, when used in the day-by-day treatment of diabetes it furnishes a continuous and relatively even supply of insulin from the subcutaneous depots. *Its action, once fully established, is maximal at all times.* The patient, therefore, can take his injections at whatever time of day is most convenient, provided that they are made 24 hours apart.[5]

There is no need for two doses in one day.

2. Protamine zinc insulin, administered daily, tends to stabilize the blood sugar during fasting at a certain level, the height of which depends upon the size of the dose. The blood sugar is pushed above this level by food during the day and gradually returns to it when the patient abstains from food during the night. If nocturnal hypoglycemia occurs it is not because of any greater intensity of insulin action at this time but because the amount is so large as to render the basic level too low. It is for this reason that the best criterion for the proper dose is the height of the fasting blood sugar.[6]

3. The constant action of this insulin explains why it regulates the mild diabetic very well, but cannot be expected to control postprandial hyperglycemia in the severe diabetic whose low pancreatic reserve does not permit the secretion of extra insulin in response to the ingestion of food. Such cases require a supplementary dose of quickly acting insulin given at the same time as the protamine, before breakfast. This procedure results in satisfactory control during the morning hours and often during the afternoon, but by supper time the effect of the regular or crystalline insulin is exhausted, and either another dose must be given at that time or considerable glycosuria during the evening must be accepted. In the absence of proof that brief glycosuria is harmful, however, it hardly seems worth while in most cases to subject the patient to the inconvenience of an evening injection.

Considerable difficulty is often encountered in the regulation with protamine zinc insulin of the so-called "brittle" diabetic. These patients, unstable at best, seem to be even more so when treated with this preparation, either alone or in combination with the quickly acting insulins. In such cases, if an amount of insulin is given which keeps the urine sugar-free at all times, the wide swings of the blood sugar will inevitably reach dangerously low levels on occasion, and severe hypoglycemic reactions will result. Since such reactions are undoubtedly more harmful than hyperglycemia, it is necessary to adjust the dose of protamine so that they never occur, even though such a dose will, in all probability, lead to intermittent or continuous glycosuria of moderate degree. The fact that glycosuria must be tolerated in this type of patient, however, does not relieve one of the duty adequately to control the blood sugar in other patients in whom it can be done safely.

Globin Insulin. — Globin insulin has recently been placed on the market. As illustrated in Figure 4, its action lies about midway between that of crystalline and that of protamine zinc insulin. It was hoped that such a preparation might take the place of separate injections of crystalline and protamine zinc insulin in the more severe cases, and that it might be as effective as any of the other forms of insulin in the management of the milder cases. In the latter category, it has proven about as satisfactory as, but not superior to, the older methods of

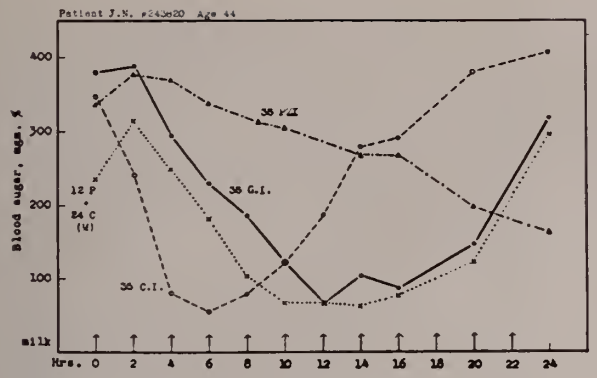


Figure 4. 24-hour blood sugar curves in the same patient with different forms of insulin.

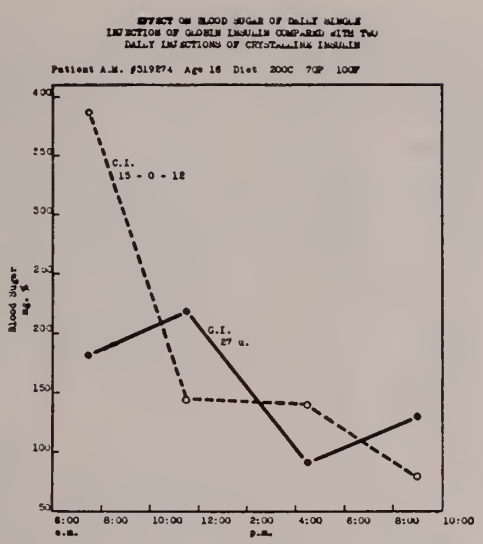


Figure 5. Each point on the curves represents the average of several determinations of the blood sugar for the time of day indicated on successive days. Meals were served at the usual hours.

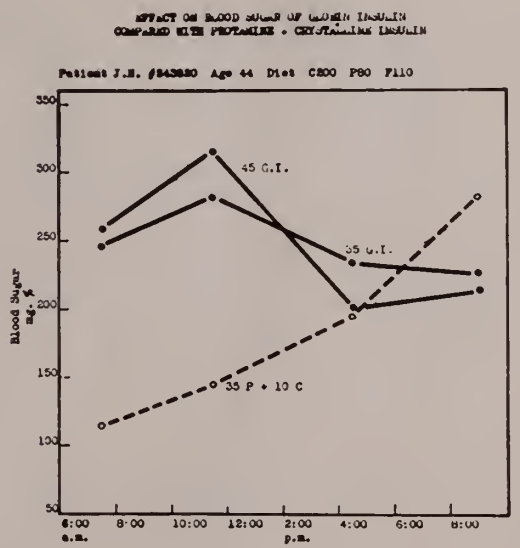


Figure 6. Each point on the curves represents the average of several determinations of the blood sugar for the time of day indicated on successive days. Meals were served at the usual hours.

treatment. In the former group, globin insulin has fallen short of the claim, made by its original proponents[7],[8] that in the great majority of patients it gave better results than crystalline or protamine zinc insulin, even when given in simultaneous, separate injections. Its hypoglycemic effect does not begin for about 2 hours after injection. This delayed action often leads to glycosuria between breakfast and lunch, even though the breakfast be low in carbohydrate. The dose must therefore be administered an inconveniently long time (one to two hours) before the morning meal. Its maximum activity is reached, as a rule, during the afternoon, so that many patients are forced to take a mid-afternoon feeding to prevent hypoglycemia. By the same token, its greatest usefulness is in those patients whose blood sugar on dietary management alone tends to be highest at that time of day. It is a reasonable assumption that no insulin of intermediate characteristics such as globin can be expected to be equally effective in all types of diabetic patients. Its suitability must be determined individually for each patient. The best results will be obtained in those patients whose diurnal blood sugar pattern, determined by multiple estimations of the blood sugar or by fractional urinalyses, conforms to the action curve of the insulin in question. The variation in response to globin insulin in different patients is illustrated in Figure 5 and Figure 6. In the first instance, the material has an undoubted 24-hour effect, whereas in the second, this appears to be largely lacking.

Mixtures of Crystalline (regular) and Protamine Zinc Insulin. — Severely diabetic patients treated with protamine zinc insulin usually require a supplementary dose of quickly acting insulin before breakfast. In an effort to avoid the inconvenience of two separate injections, increasing numbers of physicians are employing the method of mixing the two forms of insulin in the syringe immediately before injection. In spite of small errors in measurement which inevitably occur, this procedure has given surprisingly good results. It is somewhat compli-

cated, however, and should not be used by unintelligent patients. It must be borne in mind that in market protamine zinc insulin, there is an excess of protamine which, when the two forms are combined, precipitates some of the crystalline insulin. Thus, if one fills the syringe with 10 units of crystalline and 30 units of protamine zinc insulin, the resulting compound will yield something like 4 units of crystalline and 36 units of protamine zinc insulin. In the proportion in which mixtures are generally used, roughly half of the free insulin is converted into the insoluble form. If a proportion yielding one part of free insulin to three parts of insoluble insulin is desired (10 units crystalline and 30 units protamine), then approximately equal parts of the two insulins (20 units crystalline and 20 units protamine) must be introduced into the syringe. Wilder[9] has described this technic in detail.

Colwell, Izzo and Stryker[1] and MacBryde and Roberts[2] have advocated ready-made mixtures which could be marketed as such by commercial firms. It must be recognized that such preparations of intermediate characteristics, like globin insulin, and unlike the extemporaneous mixtures, possess a fixed and inflexible pattern of action, a disadvantage which is avoided by the use of extemporaneous mixtures. It is difficult to see how any one compound could conform to the variable diabetic patterns of different patients. Indeed, experience has shown that in using extemporaneous mixtures, it is often necessary to vary the proportion of the two insulins from time to time, even in the same patient. At any rate, the manufacturers have not yet seen fit to place mixtures on the market. There is, however, much to be said for MacBryde's point of view to the effect that protamine zinc insulin is unnecessarily prolonged in its action and that it might well be replaced by a combination having a more abrupt onset of action and a somewhat shorter duration. This compound, then, could be used as the basis on which variations in treatment could be made by the addition of crystalline insulin, either mixed with the modified protamine zinc insulin in the syringe or injected separately. Further work will be necessary before it can be determined whether such a change should be made.

BIBLIOGRAPHY

1. Marble, A. and I. Vartiainen. Crystalline Insulin. J.A.M.A. 113:1303. 1939.
2. Ricketts, H. T. and R. M. Wilder. Solutions of Amorphous Insulin and Solutions of Zinc Insulin Crystals. J.A.M.A. 113:1310. 1939.
3. Ricketts, H. T. The Constancy of Action of Protamine Zinc Insulin. Am. J. Med. Sci. 201:51. 1941.
4. Mark, M. F. Optimum Time for Administration of Protamine Zinc Insulin. Arch. Int. Med. 64:897. 1939.
5. Ricketts, H. T., Op. cit.
6. Ibid.
7. Bauman, L. Clinical Experience with Globin Insulin. Am. J. Med. Sci. 198:475. 1939.
8. Duncan, G. G., and C. E. Barnes. The Action of Globin Insulin Compared with That of Crystalline, Unmodified, and Protamine Zinc Insulin. Am. J. Med. Sci. 202:553. 1941.
9. Wilder, Russell M. A Primer for Diabetic Patients. 7th Ed. Philadelphia and London: W. B. Saunders Company. 1941. Page 28.

A STATISTICAL STUDY OF OBSTETRIC ACTIVITIES IN ILLINOIS HOSPITALS DURING 1943

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From the statistical viewpoint, obstetric activities of an individual hospital, or of a small group of hospitals, or possibly of all institutions in a city, are frequently reported in medical literature. Often these discussions are limited to one of the many phases of obstetrics, for example, the incidence of toxemia, the frequency of the abdominal delivery, or the maternal mortality. It is uncommon to find an over-all picture of obstetrics on a statewide basis. To make available such information as it relates to the state of Illinois, particularly to the hospitals of the state, is the purpose of this presentation.

This study, for 1943, was made from reports submitted monthly to the Division of Maternal and Child Hygiene of the Illinois State Department of Public Health, by the 238 Illinois hospitals that provide obstetric care. These reports are given careful analysis, and are checked, insofar as they record maternal and neonatal deaths, with the Division of Vital Statistics. The study gives the number of mothers delivered, the manner of delivery, the type of procedure if operative, the use of the bag for induction, the employment of Duhrssen's incision, the occurrence of special hazards such as toxemia, hem-

From the Division of Maternal and Child Hygiene, Illinois Department of Public Health.

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orrhage, and morbidity, the frequency of abortion and of ectopic gestation, the resort to transfusion, and the incidence of stillbirths, and neonatal and maternal mortality.

Tabulations were made for each hospital, for each of six groups of hospitals classed in accordance with the number of births, for the 64 Chicago hospitals as a unit, for the 174 hospitals in the state outside of Chicago as a group, for each of the 76 counties that have hospitals, and for the state as a whole.

Table 1 groups the hospitals according to the number of births, and shows the number of hospitals and the total births in each group.

TABLE 1
HOSPITALS GROUPED ACCORDING TO NUMBER OF BIRTHS

Hospitals	Number of hospitals	Number of births
With less than 50 births	19	498
With 50 to 149 births	40	3869
With 150 to 349 births	52	11920
With 350 to 499 births	30	12183
With 500 to 999 births	58	42924
With 1000 or more births	39	65255
	238	136649

TABLE 2
STATISTICAL DATA FOR HOSPITALS GROUPED IN ACCORDANCE WITH NUMBER OF BIRTHS

Clinical Activity	Less than 50 births		50-149 births		150-349 births		350-499 births		500-999 births		1000 or more births	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mothers delivered	494		3841		11834		12058		42590		64708	
Spontaneous	424	85.8	3460	90.1	9659	81.6	9614	79.7	31677	74.4	46946	72.6
Operative	70	14.2	381	9.9	2175	18.4	2444	20.3	10913	25.6	17762	27.4
Forceps	43	8.6	299	7.7	1752	14.8	1914	15.9	9084	21.3	14843	23.0
High	7	1.4	34	.9	140	1.2	49	.4	156	.4	75	.1
Mid	9	1.8	36	.9	195	1.6	146	1.2	754	1.7	1083	1.7
Low	27	5.4	229	5.9	1417	12.0	1719	14.3	8174	19.2	13685	21.2
Cesarean	22	4.4	60	1.6	292	2.4	383	3.2	1470	3.5	2076	3.2
Low cervical ...	4	.8	15	.4	92	.8	123	1.0	705	1.7	1129	1.7
Classical	16	3.2	42	1.1	195	1.6	239	2.0	733	1.7	891	1.4
Other	2	.4	3	.1	5		21	.2	32	.1	56	.1
Breech extraction ...	1	.2	9	.2	53	.4	83	.7	188	.4	543	.8
Version & extraction	3	.6	12	.3	75	.6	61	.5	144	.3	258	.4
Destructive	1	.2	1		3		3		27		42	
Bag induction	2		3		20		22		48		89	
Duhrssen's inc.	5		3		5		10		38		47	
Complications												
Morbidity*			13	.3	201	1.7	294	2.4	922	2.2	2284	3.5
Toxemia	9	1.8	38	1.0	199	1.7	227	1.9	994	2.4	2250	3.4
Eclampsia	2	.4	9	.2	47	.4	54	.4	144	.3	157	.2
Preeclampsia	3	.6	15	.4	63	.5	58	.5	363	.9	997	1.5
Other	4	.8	14	.4	89	.8	115	1.0	487	1.2	1096	1.7
Hemorrhage	9	1.8	19	.6	92	.8	199	1.7	491	1.1	1113	1.8
Antepartum	1	.2	6	.2	13	.1	46	.4	130	.3	249	.4
Intrapartum	3	.6	2	.1	18	.2	35	.3	64	.1	170	.3
Postpartum	5	1.0	11	.3	61	.5	118	1.0	297	.7	694	1.1
Transfusion			10	.3	88	.7	95	.8	462	1.1	1664	2.6
Abortions	10		37		310		395		1678		3334	
Ectopics	4		4		35		47		132		252	
Total births	498		3869		11920		12183		42924		65255	
Stillbirths**	10	20.1	88	22.7	268	22.5	265	21.8	880	20.5	1256	19.2
Neonatal deaths**	16	32.1	91	23.5	253	21.2	254	20.8	900	21.0	1376	21.1
Maternal deaths**	4	8.1	9	2.3	39	3.3	32	2.7	94	2.2	107	1.7

*A temperature of 100.4° F. or over occurring on any two of the first ten days postpartum, exclusive of the first twenty-four hours.
**Rate per 1000 births.

TABLE 3
STATISTICAL DATA FOR CHICAGO HOSPITALS, FOR HOSPITALS OUTSIDE OF CHICAGO, AND FOR ALL ILLINOIS HOSPITALS

Clinical Activity	Hospitals in Chicago (64)		Hospitals outside of Chicago (174)		All Illinois hospitals (238)	
	No.	%	No.	%	No.	%
Mothers delivered	64115		71306		135421	
Spontaneous	46370	72.3	55311	77.6	101681	75.1
Operative	17745	27.7	15995	22.4	33740	24.9
Forceps	14706	23.0	13225	18.6	27931	20.7
High	59	.1	425	.6	484	.4
Mid	904	1.4	1314	1.9	2218	1.7
Low	13743	21.5	11486	16.1	25229	18.6
Cesarean section	2214	3.5	2088	3.0	4302	3.2
Low cervical	1367	2.2	697	1.0	2064	1.5
Classical	771	1.2	1327	1.9	2098	1.6
Other	76	.1	64	.1	140	.1
Breech extraction	526	.9	349	.5	875	.7
Version and extraction	240	.4	315	.4	555	.4
Destructive Operations	59	.1	18	.03	77	.1
Bag induction	77		101		178	
Duhrssen's incision	32		85		117	
Complications						
Morbidity*	2123	3.3	1571	2.2	3694	2.7
Toxemia	2247	3.5	1453	2.1	3700	2.7
Eclampsia	145	.2	270	.4	415	.3
Preeclampsia	907	1.4	579	.8	1486	1.1
Other	1195	1.9	604	.9	1799	1.3
Hemorrhage	971	1.5	983	1.4	1954	1.4
Antepartum	226	.4	229	.3	455	.3
Intrapartum	131	.2	171	.2	302	.2
Postpartum	614	.9	583	.9	1197	.9
Transfusions	1714	2.7	602	.9	2316	1.7
Abortions	3367		2377		5744	
Ectopic gestation	228		253		581	
Total Births	64626		72023		136649	
Stillbirths**	1325	20.50	1446	20.08	2771	20.28
Neonatal deaths**	1251	19.35	1662	23.08	2913	21.32
Maternal mortality**	124	1.93	161	2.25	285	2.10

* A temperature of 100.4 F. or over occurring on any two of the first ten days pospartum, exclusive of the first twenty-four hours.
**Rate per 1000 births.

Table 2 presents in detail the clinical activities of hospitals in each birth class.

Among the variations in similar data in these columns, there is noted a higher percentage of operative intervention, a preference for the low cervical Cesarean section as against the classical operation, and a more frequent employment of transfusion, as the number of births in the hospital increases; the hospitals with the smallest number of births have a greater incidence of Cesarean section, and a higher rate of neonatal and maternal mortality. This Cesarean section rate of 4.4 per cent is higher not only with reference to the number of deliveries, but more so in ratio to the total number of operative procedures, being 31.4% of all operations in the smaller hospitals, and 11.7% of all operations in the larger hospitals. The apparent increase in morbidity as the number of births is greater, is misleading, because of failure of many hospitals, particulary the smaller institutions, to report on this item.

Because the number of births in the Chicago hospitals reached 47.3% of the total hospital deliveries, tables were prepared to give the obstetric activities for the Chicago hospitals as a

unit, for the hospitals in the rest of the state as a group, and for the state as a whole. This information is shown in parallel columns in Table 3.

In comparing the reports of the individual hospitals, there is noted a wide range of percentage in identical data. This is shown in Table 4.

TABLE 4

RANGE OF PERCENTAGE IN INDIVIDUAL HOSPITALS

	Average for state	Low %	High %
Spontaneous deliveries ...	75.1	12.3	97.7
Operative deliveries	24.9	2.3	87.7
Cesarean sections	3.2	.38	10.48(1)
Stillbirths*	20.28	4.7	81.1 (2)
Neonatal deaths*	21.32	4.5	74.6 (3)
Maternal mortality*	2.10	.0**	24.4 (4)

* Rates are per 1000 births.

**There was no maternal mortality among 2121 mothers in one hospital; other institutions without maternal loss had 1230, 1094, and 854 deliveries, respectively; one hospital had 1832 deliveries with one maternal death, and another had two deaths among 3729 mothers — giving a rate in each of .5 per 1000 births.

(1) 24 Cesarean sections in 229 mothers.
(2) 3 stillbirths in 37 babies.
(3) 5 neonatal deaths in 67 babies.
(4) 2 maternal deaths in 82 deliveries.

A similar variation is observed in the statistics prepared for the counties. For purposes of illustration, only the data dealing with stillbirths, neonatal deaths and maternal mortality are given in Table 5, which shows not only the wide range, but also that out of 76 counties, 35 had higher than the average stillbirth rate, 47 had higher than the average neonatal death rate, and 33 had higher than the average maternal mortality rate.

The maps of the state in figures 1, 2, and 3, show respectively the stillbirths, neonatal deaths, and maternal mortality, in each county, in the group classes indicated in Table 5. In general it is noted that the north and central counties have lower fetal and maternal losses than the counties in the southern part of the state.

Figure 1
Stillbirth Rate In Hospitals of Each County, Illinois, 1943

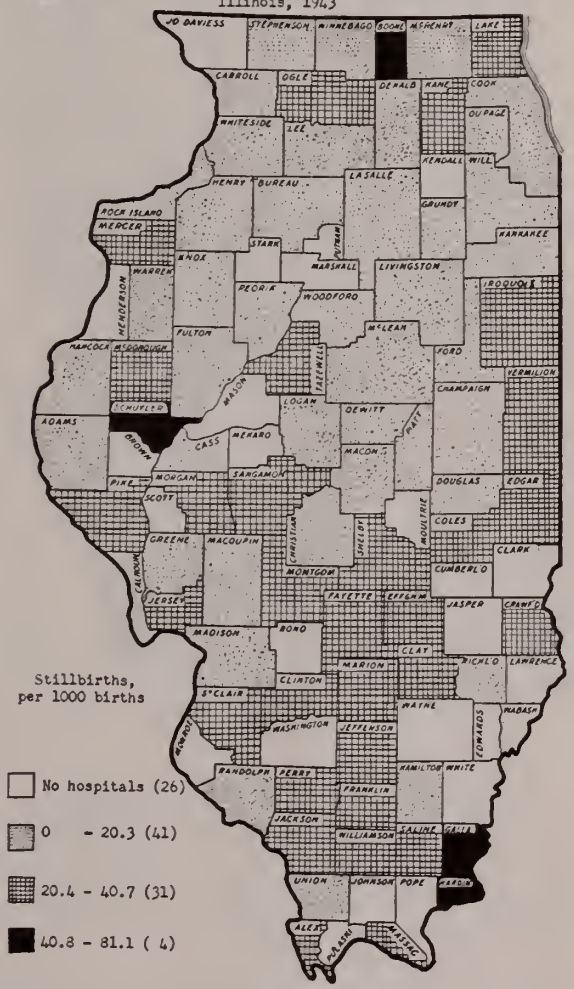


TABLE 5

RANGE, BY COUNTIES, IN RATES OF STILLBIRTHS, NEONATAL AND MATERNAL DEATHS

Stillbirths		Neonatal deaths		Maternal deaths	
Rate per 1000 births	No. of counties	Rate per 1000 births	No. of counties	Rate per 1000 births	No. of counties
.0 — 20.3	41	.0 — 21.3	29	.0* — 2.1	43
20.4 — 40.7	31	21.4 — 42.7	45	2.2 — 4.3	16
40.8 — 81.1(1)	4	42.8 — 66.7(2)	2	4.4 — 8.7	9
				8.8 — 24.4(3)	8

* There was no maternal mortality in one county with 1944 mothers, and in another county with 1302 mothers; one county had one maternal death in 2355 mothers, giving a rate of .4 per 1000 births, and another county had one death in 1644 mothers, with a rate of .6 per 1000 births.

(1) 3 babies in 37 births.
(2) 4 babies in 60 births.
(3) 2 mothers in 82 deliveries.

Figure 2.
Neonatal Death Rate In Hospitals Of Each County
Illinois, 1943

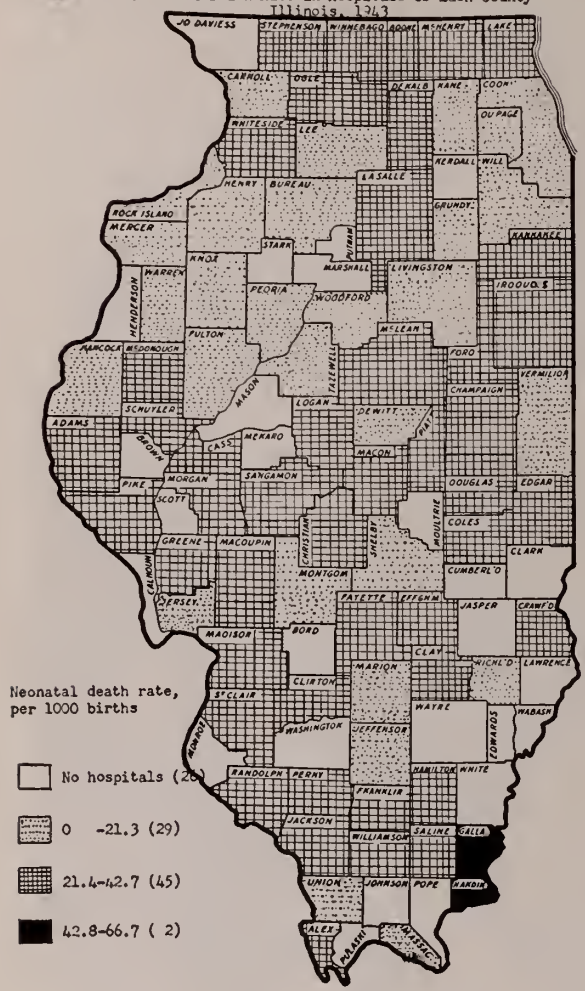
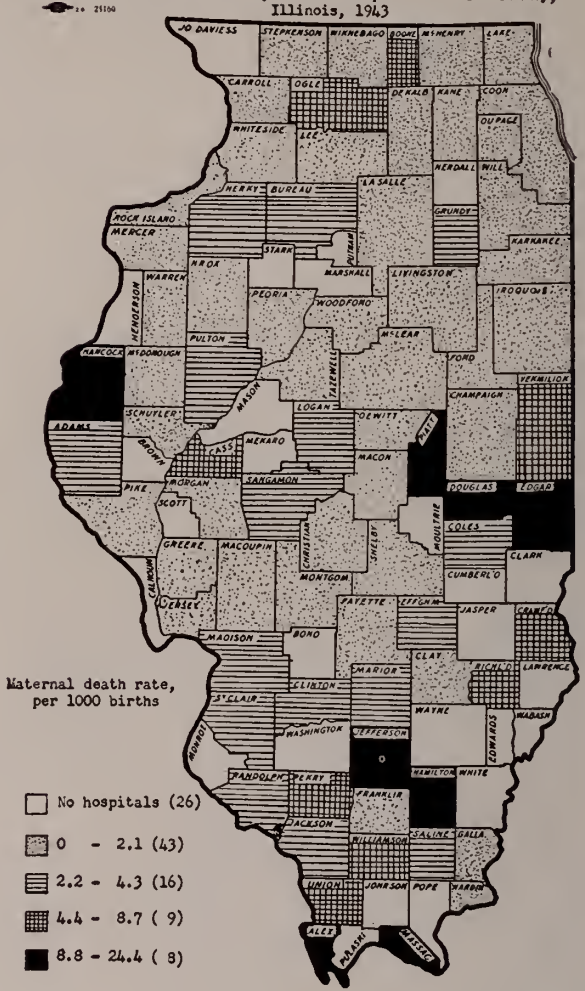


Figure 3
Maternal Mortality Rate in Hospitals of Each County,
Illinois, 1943



Although this study concerned itself primarily with the obstetric activities of the hospitals in the state, it was deemed worthwhile to record pertinent data of the total maternal work done in the state, as shown in Table 6.

This table points to the fact that in Illinois, 87.6% of the 1943 deliveries occurred in hospitals, and that 0.27% of the total births were attended by midwives. It also shows a higher stillbirth and neonatal rate for home deliveries compared with those in hospitals. The smaller maternal death rate in mothers cared for at home is explained by the readiness with which such patients, when presenting complications, are removed to hospitals.

TABLE 6
COMPARATIVE DATA FOR HOSPITAL AND HOME DELIVERIES

	Births		Stillbirths		Neonatal D.		Maternal D.	
				Rate per		Rate per		Rate per
	No.	%	No.	1000	No.	1000	No.	1000
Hospital deliveries	136649	87.6	2771	20.28	2913	21.32	285	2.10
Home deliveries*	19346	12.4	618	31.94	487	25.17	32	1.65
Total for state	155995		3389	21.72	3400	21.79	317	2.03

* Of this number, 414 mothers were delivered by midwives, or 0.27% of the total.

TABLE 7
CAUSES OF MATERNAL DEATHS, AND THEIR FREQUENCY

	Hospital		Home		Total for State	
Cause of death	No.	%	No.	%	No.	%
Toxemia	89	31.2	10	31.3	99	31.2
Hemorrhage	40	14.0	5	15.6	45	14.2
Infection	35	12.3	5	15.6	40	12.6
Other accidents of pregnancy	64	22.5	6	18.8	70	22.1
Diseases of pregnancy	4	1.4			4	1.3
Abortion	35	12.3	2	6.2	37	11.7
Ectopic gestation	12	4.2	3	9.4	15	4.7
Unspecified conditions of pregnancy	6	2.1	1	3.1	7	2.2
	285	100.0	32	100.0	317	100.0

An analysis made of the causes of maternal mortality, and their relative frequency, is presented in Table 7. It is noted that of the three leading single causes of death, toxemia ranks first with 31.2%, hemorrhage is next with 14.2%, and infection is last with 12.6%.

COMMENT

The study of the monthly hospital reports, carried on concurrently with well over 300 personal appraisals of obstetric departments of Illinois hospitals, warrants the expression, if not of concrete conclusions, at least of these well based observations:

1 — Operative deliveries up to the average of nearly 25%, as shown for the state, seems reasonable. It is conceivable that in teaching hospitals, intervention may be resorted to more frequently, but a serious question arises when operative procedures reach 87.7% of all deliveries.

2 — A Cesarean section rate of 3.2% — as shown for the state — is believed to be acceptable. But much can be said against the employment of the abdominal delivery in 10.48% of all mothers.

3 — The increase in the ratio of the number of Cesarean sections to the total of all operative deliveries, from 11.7% in the larger hospitals, to 31.4% in the smaller hospitals, places the staffs of these smaller institutions in an unfavorable and indefensible position.

4 — Criticism may be directed against the smaller hospitals for failure to make available and to employ more frequently the facilities for transfusion.

5 — Considering the average stillbirth rate of 20.28 per 1000, and the average neonatal death rate of 21.32 per 1000, one may justifiably question rates reaching four times the number in stillborn babies, and 3½ times the number in neonatal losses.

6 — Noting records of no maternal deaths in lists of mothers numbering 2121, 1944, 1302, 1230, 1094, and 854; of one death each in 2355, 1832, and 1644 mothers; of only two deaths among 3729 mothers; and of a state maternal mortality average of 2.1 per 1000 mothers, it is shocking to read of rates from 4 to 12 times as high.

7 — In reviewing the causes of maternal mortality, creditable mention may be made of the drop of sepsis from first rank, which it long held, to third place, forming the etiologic factor in 12.6% of the 317 mothers who died. It is noted, however, that toxemia, which is considered the most responsive to adequate supervision of the pregnant patient, led all other factors, and was the immediate cause of death in 31.2%.

These observations point to the recommendation that the material gathered by the Maternal and Child Hygiene Division be given careful study and analysis by the staffs of Illinois hospitals, each of which received in March a threefold summary: of its own obstetric activities, of the statistics for its birth class, and for all the hospitals in the state. It could well be made the topic of discussion at staff conferences, or medical society meeting. The data as prepared by counties can profitably serve the Maternal Welfare Committees of the various County Medical Societies, and of the State Society.

Finally, this survey makes obvious another recommendation. This is a plea for better and more thorough hospital records on the part of physicians, and greater accuracy and complete-

ness in compiling the monthly reports by those charged with this responsibility. Through such means, will future surveys become more instructive and acquire greater scientific value.

DISCUSSION

Dr. Edward L. Cornell, Chicago: This paper, of course, required a great deal of work to get these statistics in readable form, and I want to congratulate him on the study. I find on looking over statistics in my own and other hospitals, that you can make them read what you wish them to. If you take the bare facts without any qualification you come to false conclusions. I can remember a South Side Hospital in Chicago whose statistics on paper looked terrible, and only when I visited the hospital and saw the patients it received did I realize that the hospital was not at fault. This particular institution was a dumping ground for an area bounded by 51st street to 111th street, west to the city limits and beyond. The morbidity and mortality, fetal and maternal, was higher in proportion to the number of deliveries than in hospitals like Chicago Lying-In.

Another factor that impresses me is the increase in the cesarean rate and the operative rate in Chicago. Instead of man handling the patient from below and getting a dead baby, more men are resorting to cesareans. So the rate is going up in institutions.

The third thing that impresses me is that in institutions with obstetricians of recognized ability the cesarean section rate is apt to be higher, for the reason that women who have lost their first baby or have had difficulty go to a recognized obstetrician with their second or third pregnancy, and the contracted pelvis or other complication is recognized.

Another factor that impresses me is that in some of the institutions in this same group, the 1943 statistics came to my attention — I was fortunate enough to have confreres in the different institutions who gave me their figures. Some institutions that do more cesarean sections had a lower maternal and fetal mortality and a lower morbidity rate. This is not a plea for more cesarean sections, but my plea is that you should analyze statistics from the viewpoint of all factors, and not say that this hospital has 10 per cent cesarean sections and the next one only 2 per cent. What is the mortality rate, etc., in comparison of the one with the other. If you do more cesareans but save more babies and mothers, is that gratifying or not gratifying?

The number of transfusions in Chicago I think is high, probably a little higher than necessary. Blood material is easy to obtain here whereas in the south part of the State it is perhaps more difficult. Therefore transfusions are fewer. I think the situation downstate could be remedied by the State establishing centers where blood might be obtained.

The operative incidence is gradually increasing, especially low forceps. This is due probably to the fact that women want analgesia of some type, either oral or caudal anesthesia. Whether this is to be criticized I hesitate to say. It seems to me that a woman is entitled to as much relief of pain as possible when in labor.

Dr. Rudolph W. Holmes, Charlottesville, Va.: As I see it there are two chief factors to be considered in analyzing maternal mortality in hospitals — and neither of them have often been given deserving weight in discussions. The first factor is the type of hospital, does it have a normal communital admissions with fortuitous cases of real pathology, now and then, or is it so peculiarly placed that the clientele is disproportionately afflicted with grave complications of pregnancy and labor: the former will have almost no mortality, while the latter will necessarily have material losses. In times past much publicity was given to the preachment that maternity hospitals alone were the havens of security, and the obstetric services in general hospitals were public menaces. Most maternity hospitals do not have an array of pathologic cases, so it follows the death rates are low. Does anyone believe that the obstetrician in the maternity is peculiarly gifted so he towers above his colleagues in the general hospital — such a thought is rank sophistry.

The second influencing factor is the experience of the attendant. Experience comes from the diversity of the physician's practice, and its size — plus his capacity to assimilate and digest that experience. A small staff with a large obstetric service give maximum opportunity to witness and to perform all the ramifications of maternal care. It is quite otherwise in the frankly open hospital; here, the patients are distributed among numerous attendants and often a large "courtesy staff." I know of hospitals which have more attending obstetricians than there are obstetric beds. In such a service who can really have an extensive practice! Years ago I was taken to one of the largest obstetric hospitals in England: I asked the chief obstetrician how many forceps, versions, craniotomies, and Cesarean sections he personally had annually. He replied, "Very rarely as the house physicians did it all." I never could appreciate his duties.

In large cities, and in the large maternity services of hospitals the very weight of numbers will develop and will demand an orderliness of procedure in the conduct of the seriously compromised patients. It is quite another story when it involves the small hospitals in small cities and towns. We should do our best endeavors to develop an esprit de corps among the physicians in such communities and hospitals that consultations shall be held on all seriously ill parturients, and where operative indications shall be placed: I do not imply that consultations should be held between men of equal calibre, but that the best obstetrically trained man in the community shall be designated as the consultant.

I would congratulate Dr. Newberger on his preparation of this epical and epochal contribution.

Dr. J. P. Greenhill, Chicago: Those of you who have tried to analyze statistics know what a magnificent piece of work Dr. Newberger has done. Last

week in Brooklyn I listened to a paper by Gordon on the analysis of maternal deaths in the Borough of Brooklyn. Dr. Gordon has been analyzing the maternal deaths in Brooklyn for years. From a study of the death certificates in the last few years, he has shown that sepsis has dropped from first to second and even third place, and that hemorrhage is the most important cause of death. According to the statistics he obtained from the Health Department records, hemorrhage was third or fourth, in importance. However, Dr. Gordon obtained the original hospital records of each patient who died, and proved beyond doubt that hemorrhage was the outstanding cause. In cases of infection he proved that, although many patients died with sepsis, the actual cause of death was the blood loss that preceded the infection. If Dr. Newberger could get the actual hospital records he might find a similar condition.

Dr. A. J. Kobak, Chicago: I would like to ask a few questions. In reference to eclampsia having first place among various other causes of death or complications, is there simply a rearrangement of the causes of death or is there actual increase of toxemia over previous years? We know the maternal death rate has been dropping. Therefore, is toxemia actually on the increase or is it rearranging itself in the "line-up" of other causes of maternal deaths?

There was shown a definite difference in the figures pertaining to maternal death rates in Chicago and downstate. Does the latter have the same standards and rules as in Chicago, for example, that a qualified consultant must be seen to indicate that a contemplated operative procedure is valid? Recently, in going over the figures at County Hospital, the major indication for cesarean section has been repeated cesareans. We rarely see disproportion as a factor. That is surprising when you think of the number of cases at County Hospital.

The last question is, has there been any attempt to assay preventable factors? The mortality has been falling to a gratifying degree. It makes no difference how many deaths occur, but how many occur from factors that were preventable? There is nothing more deplorable than women's lives being lost when something could have been done to prevent that. When one refers to the original New York report, with something like 67 per cent of maternal deaths having preventable factors, and the Philadelphia report indicating over 50 per cent, I would like to know to what extent preventable factors played any role in the deaths analyzed by Dr. Newberger.

Dr. Frederick H. Falls, Chicago: I think the mortality shown by Dr. Newberger is a subject for a good deal of congratulation. Men who have been active in trying to reduce this maternal mortality have seen this rate, which was for years 6 and 7 per cent, in a few short years undergo this remarkable change. It is very heartening and inspiring, and makes us feel that while we are getting toward the bottom, the end is not yet. It is from figures thus carefully compiled and selected that we get encouragement to attempt to reduce the mortality to the vanishing point.

Dr. Newberger mentioned transfusions, and the lack of them in smaller hospitals, and I want to repeat what I have said before, that I think there is danger as well as value in transfusions, particularly in toxemia and in ectopic pregnancy. If you fill the vessels of an ectopic with acacia, salt solution and glucose, most of them will recover. If you can get blood that is perfectly matched it is valuable, although you are running some risk of reaction. I do not feel too badly if I have glucose, acacia and salt solution — no matter how serious the patient's condition may be — most of them will get well.

The cesarean rate, 3.2 per cent, is about what it ought to be. I must admit there are two schools of thought on cesareans. One is that there are too many. Another is that there are too few, and many men pride themselves on their conservative attitude and fail to do a cesarean when it should be done. The only way to arrive at a solution is to have men trained in obstetrics as consultants. The fact that a man can do a cesarean and is called in consultation does not mean that he is the one to determine whether a cesarean should be done. So we will have to wait until we have qualified consultants to evaluate cases in which a cesarean should be done, and even if the rate increases, the fetal and maternal mortality will decrease.

Statistics may give an incorrect impression: as shown by the report of some counties with 1000 births and no deaths; that is because such a county sends its seriously ill cases to the hospital in the next county, therefore that county gets the credit for the deaths that occur.

The question of operative deliveries in teaching institutions is a major problem with me. I do not know what to do in my own institution. I have about 1000 deliveries a year. The reason I do not have more is because the State of Illinois thinks it is possible to teach 180 young men with 30 obstetrical beds. That is one thing that is wrong in Illinois. Inadequate facilities for undergraduate and graduate teaching. In my 30 beds, if I am correct in my estimation as to how these 1000 women should be delivered, there will be only a small number operated on. If we operate only on strict indications I have residents leaving the institutions after two or three years who have had inadequate training in operative obstetrics. If they then get a case with fulminating eclampsia they are afraid to operate because they do not know how. So they are conservative, feeling that this will bring less criticism of the way the case is handled. As Dr. Holmes said, you have to have a large number of cases in order to have cases for operation. Then you have to have people competent to judge whether the patient should be operated on. Then you have to have a man who will step aside and let the young men do operations under his guidance. That means we should have a better teaching program and older obstetricians should see

to it that cases are properly used for teaching. When we get these things a good many of these problems will automatically be solved.

Dr. Charles Newberger, Chicago (closing): Dr. Cornell mentioned the fact that he had had a chance to see the records of other Chicago hospitals and noted that where there was an increase in cesarean sections there followed a low mortality rate. But Dr. Cornell also wisely said that you can make statistics read what you want. The Illinois hospital with 10.48 per cent cesareans had a maternal death rate of 17.47 per 1000 births. I am not drawing the inference that the high section rate was responsible for a maternal death rate eight times above that for the state as a whole, but these are the figures.

On the other matter of transfusions, I want to say that the State at the present time is about to initiate plans for plasma for all hospitals outside Chicago and we hope this will be in operation before very long. This will be without expense to the institution except to have donors to replace 500 c.c. of blood.

Dr. Holmes is right, in that it is not fair to charge the hospital with a high mortality rate because of the high number of pathologic cases. At the same time, it is well to recall that in nine instances with the births ranging from 854 to 2355, the maternal loss was 0 to 0.6 per 1000. It is not entirely a matter of luck. It is not lack of pathology but better obstetrics that counts.

Dr. Kobak asked for comparative data on toxemia. We have no figures available. We hope we will be in position as time goes on to determine this. The other question was about the standards of hospitals. There are 174 institutions outside of Chicago. The State has the right to withhold a license unless minimum standards are observed; essentially, it is the spirit of the men who compose the staff that decides whether standards are maintained. As to whether there has been any study made of maternal deaths from the standpoint of preventability, you can see the difficulties that arise in such investigation on a statewide basis. I am hoping the time will come when we can set up a program of that sort. We are losing valuable time from the viewpoint of improvement in practice by failure to establish such studies. It is necessary to get the consent of the Maternal Welfare Committee and of the County Society to affect such a program.

For many years childhood tuberculosis has been confused with first infection type of tuberculosis. While it is true that the course of tuberculosis is strongly modified by the age of first infection, the first attack is generally similar at any age, making due allowance for the type of tissue in which the lesion occurs. The relationship of this and other diseases such as rheumatic fever and infantile paralysis to the growth process is therefore of great pediatric importance and the subject is one for research examination.—Hugh McCulloch, M.D.—Minn. Med., December, 1944.

THE TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA WITH POSITIVE FISTULA SYMPTOMS

M. Tamari, M.D. and L. Hirsch, M.D.
CHICAGO

(Abstract)

Sulfa drugs have been used with very good results in different types of suppurating ear infections, but in some cases they are of no value, either due to small portals of entry for the introduction of locally applied drugs or because cholesteatomatous masses and debris covering the matrix, prevented the medication from reaching the diseased bone.

The continued use of these drugs in such cases have a tendency to develop intracranial complications. In connection with chemo-therapy, we would like to call attention to the treatment of chronic suppurative otitis, complicated by a positive fistula symptom and discuss the treatment as practiced in the Illinois Eye and Ear Infirmary.

A clinical fistula sign does not necessarily require verification at the labyrinthic wall. The perforation may be microscopic in size. The reverse is also true; that is, a large fistula in the labyrinthic wall may not produce a clinical fistula sign. Once the diagnosis of a positive fistula sign is made in the presence of a chronic suppurative otitis, the indication for a radical operation is given. As long as there are no intracranial complications present, the only relative indication for surgery is in relation to the time; when it should be performed. A minimum of two to three weeks hospitalization is recommended. Absolute bed rest and attention to the physical and mental state of the individual is a prime requisite for eventual surgery. Manipulations of any kind in the middle ear are avoided. For three days prior to surgery the patient is placed on a regime of sulfadiazine.

A radical mastoidectomy is performed in all of these cases. The fistula is not looked for, as this procedure may spread the infection toward the labyrinthic lumen. Special attention is given to the plastic flap. We think the large, one-flap plastic, placed below the horizontal

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From Illinois Eye and Ear Infirmary — University of Illinois.

Presented before the Section on Eye, Ear, Nose and Throat, 104th annual meeting, Illinois State Medical Society, Chicago, May 17, 1944.

canal is best for such an operative procedure. The wound is cleansed and one gram of sulfanilamide powder is placed in the cavity. An iodoform pack is loosely inserted into the external canal and the mastoid cavity packed from behind. If the sigmoid sinus and the dura have not been exposed, the post auricular wound is sutured and permitted to heal by first intention.

Full doses of sulfadiazine are administered for the next two postoperative days and gradually decreased until the fifth or sixth day, when it is discontinued.

Postoperative care is the same as for any other radical cavity.

DISCUSSION

Dr. Alfred Lewy, Chicago: I think I can speak from considerable experience in surgery of chronic suppurative otitis media which show fistula symptom. I want to congratulate the authors on their very complete elucidation of the pathology of the labyrinthine fistula. I am limiting myself to a plan of treatment I have used for a long time. I now have 17 cases, most of which date back before the use of the sulfonamides so the results are fairly attributable to the method used. It was recommended by Alexander many years ago. Any patient with chronic suppurative otitis media with fistula symptom but with no intracranial symptoms, was put to absolute bed rest for six to eight weeks. I recall two cases in which, because of the excellent condition of the patients and the disappearance of vertigo, I was persuaded to operate at the end of three weeks, and both patients had stormy convalescences. So I went back to the procedure of bed rest, minimum local treatment, and no company for the patient. That is one of the most difficult things to accomplish. They were then subjected to radical mastoid operation.

I cannot agree with Dr. Nash on the modified operation. Most of the patients had poor hearing, so the question did not come up, but I believe in the face of a fistula in the canal we must be sure we are getting absolute drainage. I have 17 cases with 17 recoveries. A number of the patients came out of the hospital with some hearing and eventually lost it. It was a degenerative process of the nerve that took place. I believe in spite of the defensive measures we have in the sulfonamides, and which I use now pre-operatively in all cases I have any concern about, I do not think we should depend on them. The answer is radical operation.

When I have an unusually large cavity I try to cut a flap to cover it. I have never seen any one flap with any advantage over any other flap. I believe my results are as good as anybody has had.

Dr. L. Hirsch, Chicago (closing): I wish to thank Dr. Nash and Dr. Lewy for their excellent discussions. As far as the hearing is concerned, it has been our experience that it is very poor in these cases of circumscribed labyrinthitis. I believe that the hearing factor is secondary to adequate drainage and prevention of further involvement of the inner ear and since the horizontal canal is in such close proximity to the posterior canal wall it is my opinion that the entire bridge be removed and a large uninterrupted cavity created.

GAS GANGRENE TREATED BY PENICILLIN

BY

W. Stuart Wood, M.D., Sam Holtzman, M.D., A. F. Goodyear, M.D., and Ciney Rich, M.D.

DECATUR

The treatment of gas gangrene by serum and x-ray therapy yields good results in many cases. There are some cases, however, where they fail in the treatment. Knight and associates reported recently on a case of gas gangrene successfully treated with penicillin.

In the following case penicillin was also used by us.

D. F., age 39, male, was injured while working in a corn elevator. The accident occurred on December 17, 1943. It was due to a power cable loop which caught around the right ankle of the patient. The patient was immediately admitted to St. Mary's Hospital and taken directly to the operating room. His general condition was good with very little shock present. Under ethylene anaesthesia, the injured foot was explored. There was a compound fracture of both bones of the right leg about 2 inches above the ankle joint. The posterior tibial artery, vein, nerve and tendon were severed. The wound was thoroughly washed with soap and water, debrided, and the severed ends of the tendon sutured. Sulfathiazole was placed in the wound and was covered by a vaseline gauze pack. The fractured bones were reduced and a bivalved plaster cast applied. Prophylactic doses of tetanus antitoxin and gas gangrene antitoxin were administered before the patient left the operating room. Sulfathiazole was started by mouth.

From 12-17-43 to 12-22-43, the patient had a low grade temperature up to 100° F. On 12-23-43, the ends of the toes showed signs of dry gangrene which was limited to the distal phalanges. Patient began to complain of pain in the region of the right ankle. The next day the temperature rose to 104.2° F. On 12-25-43, the front half of the cast was cut away revealing a discharge of foul smelling necrotic material from wound. Amputation through the upper ⅓ of the leg was done the next day. The tissues on the lateral aspect of the leg were edematous. Crepitation was detected extending up the thigh. X-Ray therapy was started under the guidance of John Madden M.D. 20,000 units of gas gangrene antitoxin were administered. Pa-



Figure 1 showing original fracture 2 inches above the right ankle joint.



Figure 2 showing gas extending about 6 inches above the knee joint.

tient had repeated chills. On 12-29-43, the temperature was 106° F. and x-ray showed gas in the thigh 6 inches above the knee joint (see Figure 1).

A pulmonary embolus developed in the left chest and required intranasal oxygen for relief. The patient's temperature remained elevated and septic in character.

On 1-7-44, lateral incisions of the lower ½ of the thigh were made extending down to the bone. The stump was disarticulated at the knee. The patient's condition remained critical.

Penicillin was obtained from Dr. Chester Keefer of Boston, Mass. and was started on 1-14-44. The following units were given intravenously:

1-14-44 55,000 units
1-15-44 120,000 units
1-16-44 120,000 units
1-18-44 90,000 units
1-19-44 110,000 units

The patient's condition gradually improved and x-rays taken on 1-27-44 showed no visible gas in the thigh, but osteomyelitis had developed in the lower ½ of the femur. There was a foul discharge from the stump. Amputation through the upper ⅓ of the femur was done on 2-3-44. Loose approximitation of muscle and skin was done. The wound was packed with vaseline gauze. Penicillin 40cc (200U per c.c.) was used locally through a tube placed in the stump until 2-10-44. It was started again intravenously on 2-4-44 until 2-10-44 giving 60,000 units daily.

Patient was given about 10 blood transfusions of 500 cc of citrated blood through the course of his illness. The following blood counts were made:

Date	Hemoglobin	Red Blood Count	White Blood Count
12-17-43	80%	4,800,000	12,400
12-27-43	50%	2,800,000	14,000
12-29-43	63%	4,000,000	20,800
1-1-44	50%	3,400,000	22,400
1-7-44	72%	4,250,000	15,000
1-9-44	53%	2,480,000	8,000
2-7-44	47%	2,690,000	7,000

The patient's condition gradually improved. The wound of the stump has almost entirely healed. The patient at present is up and about with crutches.

SUMMARY

We are reporting a case of gas gangrene of right leg which developed in spite of a prophylactic dose of gas gangrene antitoxin. X-ray, gas gangrene antitoxin and repeated blood transfusions did not seem to have any affect on the course of the disease. It is our opinion that penicillin was a great help to the patient in overcoming the disease. About 2 million

units of penicillin were used. It is of interest in this case that penicillin didn't affect the osteomyelitis present.

REFERENCES

Knight, W. B.; R. D. Loewenberg and Virginia L. Wright: Penicillin in Gas Gangrene J.A.M.A. Feb. 5, 1944 p. 360.

BACTERIOLOGICAL AIDS IN THE TREATMENT OF ACUTE GONORRHEA

Maj. Isadore Pilot, M.C.

Sulfonamides and penicillin have become potent remedies for acute gonorrhea, and have succeeded in curing patients rapidly with a marked reduction of disability and the carrier state. The present study was made to furnish practical cultural methods that could be employed in most laboratories to assist the clinician in the rapid cure of acute Neisserian infections. This work was carried out in collaboration with Captain Bernard Kaplan, M.C., of the venereal disease section of Fort Sheridan, Illinois, who is reporting in detail the clinical findings in another communication.

To detect sulfonamide resistant strains Goodale and his collaborators[1] employed chocolate agar containing .5 mg% sulfathiazole. We used 5 mg% to approach the average level of sulfathiazole in the blood of patients. In brain heart infusion this higher sulfathiazole concentration yielded excellent correlation with the clinical results.

After smears for Gram stain were made from the urethral discharge, the purulent secretion was collected on cotton swabs which were placed into tubes containing 1 c.c. of 1% dextrose broth. The material was sent to the laboratory and streaked immediately on chocolate agar plates, as prepared in the following manner.

To brain-heart infusion (Difco), readily available in most laboratories, agar in 1.75% proportion was added. Packed blood cells from citrated blood bottles from which the plasma had been removed were added one part to twenty of media. The mixture was heated slowly to 80° C. until it turned chocolate in color. Another flask of the same contents was prepared with the addition of 50 mg. sulfathiazole per liter, giving a concentration of 5 mg. per cent per 100 c.c. Poured plates were made from each flask. One plain chocolate plate and one containing the sulfathiazole were streaked routinely with each swab and both incubated in CO_2 jars for 48 hours. The growths were examined for Neisseria colonies with the aid of the oxidase reaction by the addition of 1% of para-aminodimethyl analine monohydrochloride. The typical round, biconvex, grayish white colonies of N. gonorrheae on this medium often attained a size of 3 to 4 mm. in diameter and reacted typically with the dye by turning pink, then black in color. Smears were made of the typical and positive-reacting colonies and stained by Gram stain for confirmation. On this medium the identification of N. gonorrheae was comparatively simple, and the results agreed with the smears in ninety-four per cent of the cases. Sulfa-sensitive Neisseria failed to grow on the plates with 5 mg. per cent sulfathiazole, whereas sulfa-resistant strains appeared in variable numbers. Depending on source of material from white or colored patients, the daily number of sulfa-resistant strains varied from 5% to 30%, with an average of about 15%. Most of the resistant strains were found in white patients and only occurred rarely in the colored. This finding correlates well with the experience of many who have recognized the great frequency of resistant cases of gonorrhea in the white, and the ready response in the colored to therapy with the sulfonamides.

According to Captain Kaplan, 96% of the patients with sulfa-resistant strains did not respond to the routine therapeutic doses of sulfathiazole and were referred to the hospital for penicillin therapy. Only 3% of the patients harboring the sulfa-sensitive strains required hospital care, usually for additional procedures to clear the infection.

In later work sulfa-resistant strains were placed on chocolate plates containing 0.5 units of penicillin per c.c. of media. To date all such strains failed to grow on these plates. Sensitivity to penicillin was striking, as many failed to grow on plates containing 0.1 unit per c.c. and gave very sparse growth on plates with 0.01 unit per c.c. This phase of the work is being continued, as it is reasonable to assume that with extensive penicillin therapy, strains resistant to penicillin will appear.

From the Sixth Service Command Laboratory, Fort Sheridan, Illinois.

Over 2500 cultures have been made employing the chocolate plate made with brain-heart-infusion agar, with and without sulfathiazole. The sulfa-resistant cases as reported by the laboratory responded well to intramuscular injections of 50,000 units, in divided doses of 10,000 every three hours. Occasionally 100,000 units were necessary to complete the cure.

The results of this bacteriologic study suggest a simple routine that should reduce the disability from acute gonorrhea. As long as penicillin is not available for routine use, sulfathiazole may be administered to all cases of gonorrhea until the 48-hour report of the sulfathiazole plate is received. If the strain is sulfa-resistant, sulfathiazole can be discontinued, and penicillin treatment instituted immediately. Strains resistant to sulfathiazole were usually resistant to the same concentrations of sulfadiazine, a finding corroborated by the clinical failure of this and other sulfonamides to benefit the cases resistant to treatment by sulfathiazole.

CONCLUSIONS

1. Cultures from cases of acute gonorrhea made on chocolate plates of brain-heart-infusion agar yielded excellent results. Similar plates containing 5 mg. per cent sulfathiazole quickly identified the sulfathiazole resistant strains of Neisseria gonorrheae.

2. In 48 hours cases of acute gonorrhea resistant to sulfathiazole may be detected by this method and can be treated favorably by penicillin injections.

REFERENCE

1. Goodale, Walter T., Gould, R. Gordon, Schwab, Louis, Winter, Virginia G: Laboratory Identification of Sulfonamide Resistant Gonococcic Infections: Jour. A.M.A., 1943, CXXIII, 547.

Hospitals must recognize that a significant number of tuberculosis cases are admitted among their patients, first, because frequently the diagnosis is made only after a stay in the hospital, and more often because tuberculosis is not recognized and remains undiagnosed among their patients, unless special measures are instituted for its discovery. Reliable studies have shown as much as 2 per cent of admissions to general hospitals may have unrecognized tuberculosis. Hence hospitals should insist at least that every patient with respiratory infection be considered potentially tuberculous until proven otherwise and the use of the proper contagion technic should be insisted upon in their nursing care.—M. Pollak, M.D.—The Am. Jour. of Nursing, December 1944.

ACUTE OSTEOMYELITIS TREATED WITH PENICILLIN

Cecil M. Jack, M.D., F.A.C.P.
DECATUR

Patient, R. T. S., 52 years, was first seen by me on February 11, 1944, complaining of pain in the great right toe, instep of foot, and pain that extended up the right leg with soreness over the middle of the thigh.

For the past year, at intervals, he has had pain in his leg and toe but continued to work. The pain was not localized in any particular place. There was an elevation of temperature. The patient was given codeine for relief.



Figure 1. — A.P. and lateral roentgenograms of region of right femur show evidence of a periostitis and osteomyelitis involving the mid-third of the femur. Further roentgenograms will be advisable after an appropriate interval.

On February 27th the patient was admitted to St. Mary's Hospital. There was no localization of pain which extended from an area of the upper third of the thigh down the dorsal surface of the thigh, leg, and into the foot. His temperature was up to 103. Under sulfathiazole therapy the temperature dropped to normal and there seemed a general improvement in his condition.

On March 6th an elevation of temperature reoccurred and on March 10th he had a severe chill, followed by a temperature of 105. The blood count was: red cells 5,200,000; white count 25,000; Hemaglobin 91%; Polys 88%; Lymphs 12%; Blood pressure 148/80; Kahn negative; urine normal. On the following day he again had a severe chill and high temperature. A tumefaction could now be felt over the middle third of the thigh. An X-ray film showed evidence of periostitis and osteomyelitis involving this portion of the femur. On March 12th an incision was made over the middle of the thigh and much free pus was evacuated. An opening in the bone was made and curetted and the area

Read before the Section on Medicine, Illinois State Medical Society, Chicago, May 16, 1944.

packed with vaseline gauze. The pus proved to be a pure staphylococcus. The temperature then dropped; however, he continued to have an evening elevation of temperature to 101.

On March 28th he was having chills and diaphoresis. He became delirious and very toxic. In his delirium he sustained a fracture at the site of operation and traction had to be put on his leg.

On March 29th 85,000 units of penicillin were given intravenously, followed every three hours by 15,000 units, except at night when it was given intramuscularly until 500,000 units were given. On April 3rd penicillin was discontinued because of lack of material but recontinued on April 9th, when another 500,000 units were given as before. From



Figure 2. — Reexamination of region of right femur shows evidence of a diagonal fracture in the mid-third which has the appearance of being a combination of pathological and traumatic type.

the 13th the temperature stayed normal without medication. He is now convalescing nicely.

SUMMARY

A case of staphlococcus osteomyelitis of the femur is presented in which sulfonamide treatment had failed and penicillin treatment was effective.

USE OF SACCHARIN FOR SWEETENING

Sugar rationing and new emphasis on weight reduction have doubtless increased the use of saccharin for sweetening purposes. Renewed interest in the possible harmful effect of this substance is an apparent corollary. Earlier investigations of saccharin, however, have failed to reveal dangerous side-actions except from extremely large doses. Likewise the evidence does not reveal any reason why saccharin cannot be used continuously in average sweetening doses for an indefinite period. Many patients have taken saccharin for years without harmful effect.—Wilcox, R. W.: The Therapeutics of Benzosulphinide, M. Rec. 98: 595 (Oct. 9) 1920.

FIND EARLY PROTECTION AGAINST WHOOPING COUGH IS PRACTICABLE

Contrary To Popular Belief, Investigators Find, Infants Under Three Months Of Age Can Develop An Active Immunity

Contrary to popular belief that young infants do not possess the ability to develop active immunity, early protection against whooping cough is practicable, Wallace Sako, M.D., W. L. Treuting, M.D., New Orleans, and Surgeon (R) David B. Witt and Surgeon (R) Samuel J. Nichamin, U. S. Public Health Service, report in *The Journal of the American Medical Association* for February 17.

Their paper reports a study conducted over a period of twenty-seven months during which 3,793 infants were inoculated with alum precipitated Hemophilus pertussis (whooping cough) vaccine. This is a type of vaccine in which alum is used to concentrate the immunizing factors in the vaccine. All of the babies were under 3 months of age, the vast majority under 2 months of age, at the time they received their initial inoculation.

"The fact that 75 per cent of these very young infants exhibited antibody response as measured by the . . . tests used," they say, "is evidence of the value of immunization early in infancy. This is contrary to the popular belief that young infants are unable to elaborate antibodies following active immunization, and the question of early immunization against pertussis should be reopened for consideration by the profession.

"While it was not intended to conduct a well controlled study of the incidence of the disease following immunization, some attempt was made to follow the infants subsequent to immunization. The incidence in those followed who had known exposure, familial or casual, was compared to that in a similar group of non-immunized urban clinic patients. The results of these observations, though small in number, further suggest that early protection against whooping cough is practicable."

The importance of the findings from this study is emphasized by the investigators in the introduction of their report. They say:

"According to the recent mortality records the majority of deaths from pertussis occur in in-

fants. Between 1938 and 1940 inclusive almost 67 per cent of the 10,730 deaths from whooping cough reported in the United States occurred during the first year of life and 47 per cent of these deaths were in infants under 7 months of age. The exceptionally high mortality which pertussis exacts in the first half year of life calls for thorough investigation of the possibility of increasing the resistance of young infants to the disease by immunizing them shortly after birth. This procedure has been objected to chiefly because of the belief that young infants do not possess the ability to develop active immunity. No extensive study has been carried out, however, to establish the earliest age at which immunity to pertussis can be acquired. . . ."

The second half year of life, about seven months, they point out, has generally been accepted as the optimum age for whooping cough immunization, but unfortunately half of the pertussis mortality has materialized before this age is reached.

The study they made was undertaken primarily to evaluate the incidence and severity of reactions following inoculations of the alum precipitated vaccine and to investigate the young infants' capacity to develop antibody response following immunization. Data were collected which shows that young infants tolerated the inoculations extremely well. Local reactions occurred much more frequently following the second and third injections than following the first.

PENICILLIN AIDS CLOSURE OF BEDSORES

Successful closure of bedsores was carried out with the aid of penicillin administered by injection and locally, Lieutenant Colonel John D. Lamon Jr., and Captain Eben Alexander Jr., Medical Corps, Army of the United States, report in the February 17 issue of *The Journal of the American Medical Association.* The wounds were closed with sutures of cotton.

They say that much has been published concerning the care and healing of bedsores in recent years, but, as far as they can determine, no reports of the successful closure of these sores have so far appeared in the literature.

The case they describe was that of a soldier with three bedsores on his back, all of them infected. To speed the healing of the sores so that a necessary operation could be done on his spine near one of them, penicillin was injected into a muscle for twenty-four hours. Then the sores were carefully excised, penicillin injected into the tissues around each wound and they were closed with sutures. Ten days later the sutures were removed from the wounds which remained clean and free of infection. The operation on the spine was done three weeks after closure of the bedsores.

White persons exposed to sputum-positive tuberculosis cases in a household develop tuberculosis at a rate slightly below 1 per cent per year. Negro associates have an attack rate more than twice as high. Associates of cases not known to be sputum-positive have a substantially lower risk.—Rockefeller Found., Int. Health Div., An. Rep. 1943.

Down through the centuries the common law has recognized the maintenance of the common health as one of the great tasks of society. Wendell Berge, Assistant Attorney-General, U. S. Pub. Health Reports, January 5, 1945.



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Physical Medicine Abstracts

John S. Coulter, M.D.

POLIOMYELITIS

Charles Varga, M.D., New York
In ARCHIVES OF PEDIATRICS, 61;12;636
December, 1944

Several important developments which aid in the comprehension of this disease entity are presented.

1. Certain sensory manifestations in individuals suffering from disease are explained on an anatomical basis inasmuch as sensory ganglia show involvement.

2. Involvement of the entire nervous system seen at autopsy indicates that the disease is generally a polioencephalomyelitis.

3. Pathologic changes appear in the internuncial neurons and degeneration of the synaptic associations on the surface of the anterior horn cells in many cases; thus muscle spasm may have a neurogenic basis.

4. Recovery of muscles which occurs in many cases is explained on the basis of partial degenerative changes from which neurons recover rather than on the basis of disappearance of edema.

5. Atrophy, fibrillation and changes in chemical and electrical excitability are the fundamental features of degeneration and denervation of skeletal muscle.

6. Secondary changes in muscles following immobility and disuse seem to be more severe than those following overactivity.

7. Periodic electrical stimulation of denervated muscle can decrease atrophy.

8. When the strength of voluntary contractions of muscles increase through treatment, spasticity decreases.

9. The upper portion of the alimentary tract seems to be the portal of entry of the obligate neural virus.

10. The incubation period averages 12 days; the infectious period lasts from four days before to five days after the onset of symptoms.

11. The agent escapes by way of stools and secretions of the upper respiratory tract.

12. Flies may be vectors; the common house fly is not generally a vector.

13. The mode of spread is possibly by contact or contamination of foods.

14. The incidence of bulbar and bulbospinal poliomyelitis is significantly higher in those patients who had had tonsils and adenoids removed in early life.

15. The problems of immunity are not well understood.

16. Pregnancy complicated by poliomyelitis does not generally result in an infected fetus.

17. Certain precautions must be taken in cases associated with respiratory complications.

18. The use of prostigmine has been advocated on an anatomico-physiologic basis.

19. The efficacy of serum therapy is debatable.

20. An outline of therapy is presented.

TREATMENT OF FRACTURES IN RELATION TO FUNCTIONAL RESULT

Edward Harlan Wilson, M.D.
In THE OHIO STATE MEDICAL JOURNAL,
41;1;38, January, 1945

Modern fracture treatment is generally considered to have begun when the use of the roentgen ray, in connection with the treatment and diagnosis of fractures, became general. As the general use of X-ray did not begin until about 1905, only a brief period of time elapsed before World War I occurred, with its mass demands

for treatment of every conceivable type of fracture injury. Since fracture treatment had developed on an individual basis, the War served to simplify and standardize the individualistic methods which had been in use.

Finally, a word should be said about rehabilitation of the individual once the fracture has become healed. Physiotherapy is a very useful measure in the transitional stage following nonuse. Beginning movements are painful due to the positional contracture of muscles and to the fibrosis of soft tissues from injury to them at the time of fracture.

The essence of physiotherapy is to teach the patient to move the limb through a gradually increasing range of painless motion. If motion is begun gently and does not impinge on painful limits, the patient will rapidly gain confidence, increase his range, and become quite cooperative. If he is told simply to go out and begin moving his limb he will use it in an ungoverned manner which will cause sharp reaction of pain and muscle tightening. This is quickly converted into an exaggerated idea of guarding his limb from all motion.

Once physiotherapy has brought about a fair range of motion, exercises against resistance should be instituted to increase the power of the muscles. Once this stage has been attained, physiotherapy alone will not suffice and must be either accompanied by or supplanted by more active forms of activity. In the case of workmen it is especially important that employers take them back and furnish light, restricted work which will further aid the individuals in rapid restoration of ability to perform full duty.

HEAT IN SURGICAL AND ORTHOPEDIC CONDITIONS

Frank R. Ober, M.D., Boston

IN THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 126;12;769
November 18, 1944

There are some dangers in the use of local heat. Inflammation and congestion may be increased, and severe burns are not uncommon. The physician may be sued if a patient is burned when heat has been applied by the physician or by an attendant carrying out the physician's orders.

There are also dangers in the use of general heat. Thermal cabinets or vapor baths should not be prescribed without safeguards: The patient must be physically able to stand this sort of heat. The temperature should not be beyond the danger point, and the heat should be used only by those who have had experience in its use. Above all, trained attendants must be present at all times.

The objects of heat are to relieve pain, swelling and spasm. It stimulates the circulation, thus permitting the waste products of inflammation to be carried off into the system. Heat should be considered an adjunct to rest, massage and active exercise. It alone does not restore physiologic use of a joint or muscle.

The use of heat is indicated in contusions, strains, sprains, dislocations, fractures, synovitis (except tuberculosis), bursitis, tenosynovitis, back ache, joint stiffness, arthritis, and in infantile paralysis and other conditions.

THE CARE OF SOLDIERS' FEET

Captain Paul A. Pemberton,
Medical Corps, Army of the United States

In THE BULLETIN OF THE U. S. ARMY MEDICAL DEPARTMENT, 84;112
January, 1945

The most common condition found is faulty foot posture, usually manifested by pronation of the foot. This is recognized by an outward rotation of the calcaneus with dropping of the inner border of the foot, thus throwing the body weight on the medial side of the foot and resulting in symptoms of strain of the longitudinal arch. The condition is due to relative weakness of the posterior tibialis muscle. There is sometimes an accessory navicular or prominence on the medial border of the navicular with resultant poor attachment of the tibialis posterior. The strain on the medial side of the foot may cause lowering of the longitudinal arch, resulting in one of the several types of flatfoot. Examination usually shows, in addition to pronation of the heel, tenderness beneath the astragaloscaphoid joint, where the patient localizes the pain. There is no swelling and no limitation of motion. Forcing pronation of the forefoot may cause pain. The diagnosis is strain due to faulty foot posture and treatment is directed toward correction of the pronation. This includes overcoming the excessive lengthening and weakness of the tibialis posterior. Mild

cases can be treated satisfactorily with a medial wedge under the heel of the shoe, 3/16 inch thick along the inner border and tapering off over halfway across the heel. The heel of the foot must fit snugly into the shoe.

In more severe cases the inner border of the heel is lifted by an arch support in addition to the wedge. A firm flexible support is used and the high point of the support should come under the sustentaculum tali and lift it up. This must be fitted carefully as there is a tendency to get the high point of the arch too far forward, usually under the navicular. This throws all the weight on the arch support and does not correct the pronation.

In the use of arch supports, the point of highest elevation of the longitudinal support should vary according to the condition for which the appliance is being fitted.

Acute sprain is sometimes associated with the chronic strain of poor foot posture, usually within the first two weeks of training or after a long march. In addition to the signs described there is swelling through the mid-tarsal region. Ecchymosis does not occur. This foot will require rest from weight bearing if symptoms are severe. Taping the foot in slight inversion, with a fitted piece of felt under the longitudinal arch, will permit a limited amount of walking.

RECENT ADVANCES IN THE TREATMENT OF PERIPHERAL VASCULAR DISEASES

Gordon E. Jones, M.D., Seattle, Washington

In WESTERN JOURNAL OF SURGERY OBSTETRICS & GYNECOLOGY, 52;12;497 December, 1944

Physical Measures. Successful efforts to increase peripheral blood flow by physical measures have been limited to the expedient of intermittent venous occlusion. This simple mechanical phenomenon can be achieved by means of Buerger's passive vascular exercises, a Burdick intermittent venous occlusion apparatus, or by an ordinary blood pressure cuff and an attendant taught to operate it properly. The purpose of any of these methods would be to bring about an intermittent and rhythmic venous distension with alternate periods for emptying the vascular bed. This therapeutic measure is based on sound experimental data and, more important, has been found to work repeatedly in actual clinical trial. The conclusions of Friedland and Wilkins, based on experimental work which failed to demonstrate an increase in blood flow during venous occlusion, are not necessarily applicable to the effects of intermittent venous occlusion on peripheral blood flow. Their findings are at variance with the work of other investigators.

Refrigeration Anesthesia. Refrigeration anesthesia for amputation has been unreservedly advocated by Allen and others. The technic, as described by several authors is essentially the same in most details. Proponents of the method state that this type of anesthesia lowers the mortality, reduces shock, and makes surgery possible in some cases that might otherwise be hopeless. They all agree that one disadvantage is a delayed healing time.

The refrigeration technic, when properly performed with utmost attention to detail, gives satisfactory anesthesia for almost any type of amputation. The method, however, is time consuming and is cumbersome and messy. Strict aseptic technic is difficult to maintain. The principle of using a tourniquet proximal to the site of amputation in a patient with poor peripheral circulation is a poor one. Crossman's mortality rate of 15.5 per cent in 45 patients anesthetized with this technic is not impressive. The method will be attractive to those who have had anesthesia difficulties but it does not appeal to those who have performed amputations simply and safely under a very low unilateral spinal anesthesia such as can be obtained with as little as 50 mg. of novocain.

Refrigeration anesthesia is a valuable adjunct, however, in certain types of cases. Cooling has the great advantage of arresting the metabolism of both tissue and bacteria, and can therefore be used to "freeze" a septic or gangrenous process while a very ill patient such as a diabetic in acidosis can be prepared for surgery. Crossman reports the case of a poor risk patient with a popliteal embolus in whom the extremity was refrigerated for 16 days before gangrene developed. The method is also of value in the handling of a mangled extremity when the patient needs to be treated for shock.

REFRIGERATION IN CLINICAL SURGERY

Alfred Large, M.D., and Peter Heinbecker, M.D.,
St. Louis, Mo.

In ANNALS OF SURGERY, 120;5;714
November, 1944

Refrigeration of an extremity abolishes pain and lessens the blood and lymph flow. When such refrigeration is followed by, and combined with, the application of a tight tourniquet, absorption of toxic products from an infected gangrenous extremity is, for all practical purposes, eliminated.

Because refrigeration tends to delay wound healing and decreases the power of resistance of tissues to bacterial invasion, the prolonged cooling of tissues to be preserved is not advocated. It is recommended that necessary amputations be carried out above the level of cooling.

Because a patient's general condition can be improved so greatly, during the combined use of cold and the tourniquet, by ordinary restorative measures, it is unnecessary to avoid the use of inhalation or spinal anesthesia for amputation.

Six illustrative cases cared for in accordance with the above principles are reported.

HAZARDS OF HYPERTHERM TREATMENT

In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 127;2;125
January 13, 1945

Wallace and Bushby investigated changes occurring in patients undergoing hypertherm treatment to ascertain whether chemotherapy increases the risks and to discover prophylactic or therapeutic means of eliminating or minimizing the danger inherent in the treatment. They report clinical observations on 254 cases undergoing hypertherm treatment at 106.6 F. for eight hours. Of these, 37 were the subject of a detailed clinical, hematologic and biochemical investigation. The most constant and prominent features were the development of anoxia and of bilirubinemia progressing to definite clinical jaundice in 37 cases. Hippuric acid tests for liver function showed a considerable reduction in this function. Patients with jaundice should be treated as if they had hepatitis and should be kept warm in bed for at least three days or until the jaundice clears. Continuous oxygen and carbon dioxide therapy lessens, though it does not abolish, the anoxia. It appears to prevent circulatory collapse. Vomiting was less frequent after its introduction. Circulatory collapse is a failure of the vasomotor and respiratory centers and is not due to a reduction in the volume of the circulating blood or to myocardial failure. The use of morphine is contraindicated. Hypertherm treatment causes a transient polymorphonuclear leukocytosis and a transient hemodilution. There is a small transient rise in nonprotein nitrogen and a tendency for plasma chlorides and urinary chlorides to fall. The treatment has considerable dangers. The duration must be decided by the medical officer observing each case, but the following are suggested as indications for terminating treatment immediately: (1) fall of systolic blood pressure below 100 mm. of mercury, (2) disorientation, (3) pulse rate persistently over 160 per minute, (4) respiratory rate persistently over 50 per minute, (5) temperature of 107° F. for a quarter of an hour, (6) restlessness and violence, (7) coma, (8) pallor superimposed on cyanosis, (9) intolerance on the part of the patient, the restlessness of an intolerant patient adding greatly to the risks inherent in the treatment, (10) persistent vomiting. Catarrhal infection and nasal obstruction should be regarded as contraindications to treatment. The patient should be examined preparatory to the hypertherm treatment so as to exclude those with cardiovascular, respiratory, renal or hepatic disease. The treatment should be carefully explained beforehand to prepare the patient for his physical and mental ordeal. Oxygen and carbon dioxide should be given for at least an hour after treatment or until color improves. Premedication with 6 Gm. of sulfathiazole does not increase the hazards of hypertherm treatment.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

ABSENTEE SICKNESS RATE SOARS TO REFLECT WARTIME CONDITIONS*

Absenteeism due to sickness among male industrial workers showed a substantial increase for the third quarter of 1944, shooting the total industrial sickness rate in this year up to 37 per cent above average for the period 1935-1944, according to statistics released by the Industrial Hygiene Division of the U. S. Public Health Service.

Nonrespiratory-nondigestive diseases rose 15 per cent above a like period in the previous year. Conditions contributing to this record included a 26 per cent increase in rheumatism, a 29 per cent increase in neurasthenia and other diseases of nervous or mental origin, and a 34 per cent increase in diseases of the genitourinary system.

The incidence of rheumatic diseases, diseases of the heart and arteries, nephritis, and nervous diseases has never been equalled or exceeded within the past decade. Nervous diseases showed the highest rate of increase, rising 76 per cent above the ten-year mean.

The rate of respiratory diseases, while slightly lower than in 1943, was 32 per cent above average for the decade. Digestive diseases also rose to a rate exceeding anything experienced with the ten-year period.

Employment conditions peculiar to wartime are held responsible. Categories of disease showing the highest increase involve mainly older workers. The hiring of workers long unemployed or retired is one factor held to contribute to the record sickness rate, as is the employment of youths and other inexperienced personnel, and the necessity for employing in industry men rejected by the armed services.

Wartime working and living conditions are thought to be reflected, since other factors held accountable include emotional strain and personal mental conflict, overcrowding in plants and war communities, fatigue due to the lengthened work week, and night work.

*"Industrial Hygiene News Letter," Vol. 5, January, 1945, No. 1

DERMATOPHYTOSIS INVESTIGATION*

Results of a study of dermatophytosis in industry, reported by the Dermatoses Section of the Industrial Hygiene Division, U. S. Public Health Service, show this type of fungous infection to be unimportant as a cause of lost time among industrial workers.

Object of the study was the gathering of data relative to (1) the incidence of dermatophytosis in industry, (2) possible spread of this infection in industrial shower and locker rooms, (3) the relationship of dermatophytosis and industrial dermatitis, and (4) the differential diagnoses between dermatophytide and industrial dermatitis of the hands.

Workers from various parts of the Nation were examined for fungous infections of the hands and feet. Of the total number, nearly 28 per cent were clinically positive, 33.3 per cent doubtful, and the remainder negative. Sex made no apparent difference, but season of the year was found to be an important factor in the incidence, with the highest number of infected individuals found during the summer months.

Shower room flooring was held to be a possible but not likely source of fungous infection of the feet. A type of copper-impregnated flooring

investigated was found to be of no value in preventing spread of the infection.

Allergic contact dermatitis was shown to bear no relationship to dermatophytosis. An allergy to this type of fungus or its products appeared to be unrelated to other dermatic conditions handicapping industrial workers, and to be of little importance as a factor in lost time.

LEAD POISONING IN ORCHARD WORKERS*

Employment and working conditions resulting from the war have increased the dangers of lead poisoning among orchard workers in north-central Washington, it is reported by Dr. Lloyd M. Farner, head of the Industrial and Adult Hygiene Section of the Division of Preventive Medical Services, Washington State Department of Health.

Among 19 cases of illness recently investigated by the Section, nine were found to be lead poisoning, resulting from the use of lead arsenate as an insecticide in codling moth control. Shortage of labor leading to continuous exposure of some workers for as long as 70 hours a week, and inadequate education of new workers in the hazards involved in their occupation, were held to be basic reason for the sharp increase last year in the incidence of lead poisoning.

EXPOSURE TO SOLUBLE BARIUM DUST AND FUMES†

The California Bureau of Industrial Hygiene has made a survey in a plant where an ore rich in barium sulfate is converted to barium oxide, barium peroxide and barium hydrate. During the various steps of the process, employees are exposed to dust or fumes of each of these soluble compounds. Measurements of concentration of dust and fume, both by particle count and weight, when correlated with subjective reaction of exposed persons, permitted the setting of tentative standards with respect to the irritative effect of the dust. The plant offers an excellent opportunity for the study of systemic effects of long time inhalation of soluble barium products. No study of this sort has yet been made by the Bureau.

LOCAL EXHAUST VENTILATION IN METALIZING OPERATIONS†

An industrial plant in California has solved the problem of collecting dust and fumes from metalizing operations where these operations are performed on long parts, requiring the metalizing torch to travel several feet. A small hood was devised to surround that portion of the piece being metalized and adapted to travel along the lathe bed with the metalizing torch. Exhausting this hood was accomplished by connecting it to the blower by means of short lengths of ducts equipped with swivel elbows. The hood was designed with face velocity of 500 feet per minute and shaped to catch high velocity streams of particles rebounding from the sprayed surface.

SULFUR DIOXIDE IN DRIED FRUIT PROCESSING†

A study of the exposure of workers in a fruit packing plant to sulfur dioxide gas used in treating the fruits has led to the recommendation of a new method of applying the gas. The gas has been generated by burning solid sulfur in shallow trays on the floors of treatment rooms. Since there is continuous discharge throughout the burning period of a large quantity of highly contaminated air, which not only exposes the workers in the plant but creates a nuisance in the area outside, it was recommended that this method be replaced by the injection of sulfur dioxide gas from pressure cylinders directly into tightly sealed spaces, in accordance with usual fumigation practice.

CAMPAIGN TO REDUCE ACCIDENT AND HEALTH HAZARDS IN PLANING MILLS AND SMALL WOODEN CONTAINER INDUSTRIES*

A six month drive, beginning January 1, 1945, planned to reduce injuries and to eliminate health hazards in planing mills and small wooden container industries, has been initiated by the Department of Labor. A conference on this subject, called by the Division of Labor Standards, U. S. Department of Labor, on November 15, 1944, in Washington, was attended by national agencies concerned, the three trade

*"Industrial Hygiene News Letter", Vol. 5, January, 1945, No. 1

†"Industrial Hygiene News Letter", Vol. 4, December, 1944, No. 12

associations representing these industries and three labor unions involved.

The Bureau of Labor Statistics has reported an extremely high accident frequency and severity in these industries. A frequency rate of 44 has been reported for planing mills and 54 for the container industry. One out of every 200 employees in the planing mills has a serious injury every year. Absenteeism from sickness in this industry has also been serious.

The Division of Labor Standards will arrange for the calling of State meetings of all interested agencies to launch the drive in those States where there are sufficient industries to warrant such meetings. Industrial Hygiene Divisions will be asked to cooperate in making surveys of occupational health hazards in these industries. The present campaign is a confirmation of similar efforts in which Industrial Hygiene Divisions have cooperated.

SICK ABSENTEEISM AND MEDICAL CERTIFICATES FOR INDUSTRIAL WORKERS*

The present critical need of manpower for increased war production calls for more effort to be directed toward reduction of unnecessary absenteeism and labor turnover. Among the many factors bearing on this problem is the relation between private physicians and industrial physicians. A statement recently prepared on this subject by the Safety and Security Division, Office of the Chief of Ordnance, Army Service Forces, directed toward industrial physicians in Ordnance plants, has been called to our attention because of its applicability to all plant physicians and cooperating private physicians.

This statement says in part "To minimize absenteeism alleged to sickness and terminations attributed to ill health, the closest possible cooperation should be maintained between plant physicians and private physicians in nearby communities. Private physicians often have no accurate information concerning health hazards associated with their patient's jobs in Ordnance plants and the generally satisfactory medical and engineering measures taken for their control, and are often at a loss as to how to advise their patients regarding complaints related to work. Likewise, private physicians are not generally aware of the information concerning their patients, available from the plant physician in connection with past examinations, blood tests, x-ray findings, and other diagnostic aids."

The related problem of medical certification of illness has also been brought to our attention as a matter that should be considered by the State Industrial Hygiene Divisions. This subject was discussed in an editorial entitled, "Medical Certificates and War Production," published in the Journal of the American Medical Association, issue of November 11, 1944. The private physician's responsibility is presented in this editorial as follows: "The Government and its contracting agents customarily require medical certificates to cover an absenteeism alleged to illness or a labor termination attributed to reasons of health. The medical profession is then put under pressure by thoughtless persons who see little harm in collecting disability benefits or in obtaining better jobs on pretext of illness. They fail to see the cumulative results of hundreds of thousands of such acts on critical war production. Responsibility rests squarely on the physician to act as prosecutor, defense attorney and judge before issuing such a certificate. He fails himself, his profession and the war effort if certificates are issued without due cause."

Traditionally, the doctor has been called upon to champion and be an advocate of his patient. In the main, the patient has been the one who employed him and he has instinctively defended the patient against any or all groups having impersonal interests. The doctor is called upon to certify to this and to that. He must certify birth and death; the occurrence of contagious disease; the health of food handlers; and the freedom from disease of candidates for marriage. Health and accident policies depend to an appreciable extent on the knowledge and integrity of practicing physicians. Compensation statutes require medical judgements as bases to support legal judgments. One easily understands why the busy doctor labels all certification a "chore." It is true that to refuse to sign any statement his patient requests, the physician risks an irate individual, but one wonders what degree of confidence and respect the patient will have in his doctor if the latter, unwittingly or not, falls in

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with such a procedure to circumvent common honesty.

The tendency of some workers is to indict fumes, gases, dust, etc. for real or alleged ill health. Actually, few unskilled workers know what if any occupational hazards exist in their working environment. Such a worker, in the role of a patient, may influence the family doctor to a most astounding and untenable diagnosis. It seems opportune to urge that physicians protect themselves in this respect by using confirmatory sources of information.

State and local industrial hygiene divisions can give the private physician information on the specific environmental health conditions in a particular plant on request, when there is any question concerning the possibility of illness being incurred on the job.

They can also assist industries in developing a standard form of certificate for physicians to use in making reports and can bring this subject to the attention of medical societies as opportunity offers.

PROPOSED INDUSTRIAL HEALTH SERVICE ACT*

In response to several requests from State divisions of industrial hygiene for a statement of desirable provisions for State industrial hygiene laws, a "Proposed Industrial Health Service Act" has been prepared and sent to all the States. This proposed Act states the duties of a State agency in regard to the investigation of places of employment and the adoption of rules and regulations pertaining to the control of industrial health hazards. It specifies actions that should be considered violations, namely, denial of access of health department representatives to industry, and the use of harmful materials known to be dangerous to the health of the workers. Requirement of reporting of occupational diseases to the State division of industrial hygiene by physicians is also included in the proposed Act's provisions.

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COMPLICATIONS OF PNEUMONIA

With the advent of penicillin and other powerful antibacterial drugs and specific agents for the treatment of pneumonia, supportive treatment may be as important as the antibacterial, four Boston physicians point out in *The Journal of the American Medical Association* for February 10.

S. Howard Armstrong Jr., M.D.; Albert C. England Jr., M.D.; Cutting B. Favour, M.D., and I. Herbert Scheinberg, M.D., report 2 cases of severe and progressive anemia and hypoproteinemia which developed in patients with extensive and protracted bacterial pneumonia being treated with penicillin.

They say that although these complications hitherto have been rarely seen in pneumonia, they "may occur with increasing frequency as specific agents permit prolonged survival in the face of infections otherwise rapidly fatal."

In one of the cases, they explain, the anemia and hypoproteinemia of nutritional origin probably antedated the pneumonia because the patient, a man aged 85, had been on a deficient diet for several years. In the other case the anemia and hypoproteinemia developed after the onset of pneumonia.

"In these patients," the four physicians say, "enormous amounts of whole blood and plasma were required to counteract the progression of the anemia and hypoproteinemia. The fact that this therapy together with nearly all known measures for maintenance of optimum . . . in remaining functional lung tissue, appeared necessary to maintain life for some time after apparent bacteriologic arrest of the infection suggests that, in pneumonia of this severity, development of anemia and hypoproteinemia should be anticipated by early use of whole blood and plasma together with adequate protein dietary intake."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

BUREAU COUNTY

Ten of the thirty-two members of Bureau County Medical Society are in the armed forces serving in the European and Pacific theaters of war. At the November meeting of the Society a committee was appointed to draft a letter, copy of which was sent to each member in service. Included in the letter were holiday greetings from the members and a brief review of the activities of the Society during the past year.

COOK COUNTY

Capt. Claude W. Carr has been named medical officer for the 9th naval district at the Great Lakes Naval Training center, replacing Capt. C. B. Camerer.

Lt. Col. Leo Patrick Sweeney of Chicago, formerly connected with Loyola University School of Medicine, has been promoted to Colonel.

Caesar Sweitzer of Chicago has been promoted from Major to Lt. Col.

The following promotions from Major to Lt. Colonel have been announced: Everett Lee Strohl, Werner Felix Eisenstaedt, Elbert Kenneth Lewis, Vincent Albert Madda, all of Chicago and Louis Philip River of Oak Park.

Captain Charles Joseph Katz of Oak Park and Second Lieutenants Minnie L. Breese and Alice Josephine Hahn of Chicago of the Army Nurse Corps, have been rescued on Luzon where they have been held captive.

The University of Illinois Evacuation Hospital (the 27th) is now stationed with the Seventh Army in Germany. Moved from a camp in Kentucky to Africa, then to Italy, then southern France and on north, the unit moved up close behind the battle lines of the Seventh Army onto German soil. It has won three battle stars for service in three countries. The hospital is a 750 bed unit whose total personnel, including patients, ranges between 1,300 and 2,000. The hospital unit is staffed largely by faculty men and alumni of the university's colleges in Chicago.

Capt. Frank J. Lavieri, formerly of Chicago, was recently awarded the Bronze Star for meritorious achievement in action in Normandy with a paratroop unit, and the Presidential Unit Citation, awarded to all members of his paratroop group among the first to land in Normandy on D day. Dr. Lavieri graduated from the University of Illinois College of Medicine, Chicago, in 1930 and entered the service Oct. 31, 1942.

Lt. Col. Ralph H. Fouser, of Chicago, who recently completed almost a year and a half of Army surgery in the Solomon Islands, has been named the new commanding officer of the station hospital at Camp Ellis, Illinois, replacing Col. Herman A. Jacobson, also of Chicago, who leaves for overseas, Col. John S. Sullivan, camp commander, announced.

A reserve officer with World War I experience, Col. Fouser served as chief of the general surgical service of an evacuation hospital in the New Hebrides Islands.

A certified specialist by the American Board of Surgery, and Fellow of the American College of Surgeons, Col. Fouser was engaged in an extensive practice or general surgery in Chicago and suburban Oak Park before the present war. He was a member of the West Suburban hospital and other Chicago hospitals. Earlier he was a clinical associate in surgery at Rush Medical College in Chicago, and professor of anatomy at Loyola University.

A Bronze Star Medal has been awarded to Captain Garland N. Adamson, Medical Corps,

United States Army, formerly of Chicago, for "heroic achievement in connection with military operations against an armed enemy of theUnited States, at ....., France, on 11 November 1944. On 11 November 1944, the bivouac area of the ..... Tank Battalion, in the vicinity of ....., France, was subjected to heavy enemy artillery fire. During the shelling, one member of a tank crew was seriously wounded and could not be safely removed to the aid station. Captain Adamson, in total disregard for his own personal safety, and under the enemy's artillery fire, proceeded on foot from his aid station to the wounded man and gave emergency first aid, coolly and efficiently. His prompt, courageous action saved the man's life. His strong devotion to duty, his courage and solicitude for our wounded reflect the highest credit upon Captain Adamson and the armed forces of the United States."

One of the busiest Chicagoans on Iwo Island has been Lt. (jg) Marvin Dale Courtney formerly of 8103 Marquette Avenue, Chicago, who is directing care of the wounded. He expressed pleasure at the results gained by blood plasma in saving the wounded, but said shell shock and battle fatigue cases were on the increase because of the continued heavy explosions. Doctor Courtney was graduated from the University of Chicago Medical School in March, 1943 and entered the navy two months later. He interned at the Great Lakes Naval Training Station and was sent to Guam in August, 1944 with the 3rd marine division.

U. S. 297th General Hospital, England, Feb. 11.—This small corner of England, less than a square mile, is almost a bit of Chicago. The 297th General hospital is manned mostly by doctors, nurses, and enlisted men from Chicagoland.

The hospital, an affiliated unit of the Cook County hospital in Chicago, was established shortly after D-day. It has cleared 5,000 patients, of whom more than 2,500 required major operations. Its 1,500 patient capacity usually is filled.

In command is Col. Francis Pruitt, Shelbyville, Ind., with Lt. Col. Chester C. Guy, Chicago, as chief of the surgical service.

Among those in the surgical service are Maj. Peter Nelson, Fremont, Ill., chief of Urology; Major John J. Walsh, 2946 W. Monroe St., Chicago, chief of the eye, ear, nose, and throat section; Maj. Hampar Kelikian, Chicago, chief of orthopedics; Capt. Malcolm C. Todd, Lawrenceville, Ill., chief of general surgery; Capt. Edmond R. Donoghue, 7136 Oglesby Ave., Chicago, chief of the operating rooms; Capt. Francis Napolilli, 3526 Reta Avenue, Chicago, chief of plastic surgery; Capt. William H. Walters, 5935 Nina Ave., Chicago, surgeon; Capt. Carl K. Solander, 530 Arlington Pl., Chicago, orthopedic section; Capt. Joseph C. Schoolman, 7024 Paxton Ave., Chicago, eye, ear, nose, and throat section, and Capt. Nicholas J. Capos, 525 Arlington Pl., orthopedic section.

The head nurse in the operating rooms is Capt. Irene Magnin, who for six years was head nurse at Cook County hospital.

Captain Sidney Kahn, 1817 S. St. Louis Avenue, Chicago, who saw 29 months of action as a member of a portable surgical hospital unit is home on leave awaiting reassignment. He was an intern in the Illinois Masonic Hospital and the Cook County Hospital before he entered the army.

DU PAGE COUNTY

Word has been received from the Surgeon General's Office that Ernest Martin Nielsen of Elmhurst has been promoted from Lt. Colonel to Colonel.

MARION COUNTY

The Navy and Marine Corps Medal was recently awarded to Lieut. Comdr. Ernest N. Neber, formerly of Centralia, Ill. The citation read "for heroic conduct while serving as flight surgeon with a Marine fighter squadron on the occasion of an explosion at an advanced naval base in the Solomon Islands area on Sept. 4, 1943. When a large aerial bomb exploded and overturned a nearby truck, Lieutenant Commander (then Lieutenant) Neber unhesitatingly rushed to the aid of three men in the cab of the burning vehicle. Lifting him out of the compartment while ammunition from the gun pans of four blazing planes exploded around him, he carried an unconscious and badly burned victim to the safety of a revetment, where he skilfully administered emergency treatment. Seconds after he effected his daring and gallant rescue, a gasoline truck exploded and completely demolished the four planes and the overturned vehicle. Lieutenant Commander Neber's professional integrity and fearless devotion to duty, maintained at great personal risk, undoubtedly saved the life of a man who otherwise might have perished and were in keeping with the highest traditions of the United States Naval Service." Dr. Neber graduated from Hahnemann Medical College and Hospital of Philadelphia in 1936 and entered the service July 1, 1944.

MONTGOMERY COUNTY

Joseph Robert Rebillot of Litchfield has been promoted from Major to Lt. Colonel.

PEORIA COUNTY

Charles Digges Branch of Peoria, Major in the Medical corps has been promoted to Lt. Colonel.

GENERAL

BUREAU COUNTY

The following officers have been elected by the Bureau County Medical Society to serve for 1945: President, J. Harold Hopkins, Walnut; Vice-President, F. Emerson Inks, Princeton; Secretary-Treasurer, Gerald S. McShane, Spring Valley; Delegate, George E. Kirby, Spring Valley and Alternate Delegate, K. M. Nelson, Princeton.

The February 13th meeting of Bureau County Medical Society was held at Spring Valley. P. V. Hartman, Jr. of Granville discussed "Penicillin" and Gerald S. McShane, ,Medical Director of the Green River Ordnance Plant showed a training film on the application of "Plaster Casts" a recent issue by the United States Army. The March meeting will be a social gathering at the home of Doctor and Mrs. M. A. Nix, Princeton. It will be a joint meeting of the Society and the Women's Auxiliary.

Due to unpredictable weather conditions during the winter months, instead of having scientific programs presented by outside speakers, the programs have been given by members of the Bureau County Medical Society. On Dec. 12th, 1944 J. G. Powers of Spring Valley presented a paper on "Atypical Pneumonia" and at the January meeting M. C. Nix spoke on "Hydro-Nephrosis."

CARROLL COUNTY

Joseph B. Schreiter, Savanna, recently started his forty-fifth year as coroner of Carroll County. Doctor Schreiter, who graduated at Rush Medical College, Chicago, in 1896, was named coroner in 1900, serving in the position ever since with time off to go overseas in the first world war.

COOK COUNTY

Dr. Charles A. Siler, a practicing physician in Oak Park since 1929 and formerly a medical missionary in China, has been appointed health commissioner of Oak Park, effective February 15. He succeeds Dr. Gilbert P. Pond, who resigned to accept a commission in the U. S. Navy. Dr. Siler graduated at the University of Kansas School of Medicine, Lawrence-Kansas City, in 1910, receiving also a degree from Rush Medical College, Chicago, in 1922.

The state department of registration and education moved, January 31, to the second floor of the Burnham Building, 160 North La Salle Street. The department, whose telephone number is now Andover 4755, was formerly housed at 600 South Michigan Avenue.

The fourth Edwin R. Kretschmer Memorial Lecture will be delivered on April 27 at the Palmer House by Dr. William Bloom, professor of anatomy, University of Chicago School of Medicine, on "Experiments on Hematopoiesis." The lecture is a project of the Institute of Medicine of Chicago.

A professorship in pathology is one of four new professorships created at Northwestern University in honor of the late Mrs. Emma H. Morrison. Mrs. Morrison willed $1,750,000 to the university when she died four years ago to create the "Charles E. and Emma H. Morrison Memorial Fund" with the stipulation that the university use the bequest in the manner it deemed best. The other professorships include one each in zoology, English and marketing.

William D. Stroud, Associate in Medicine, Pennsylvania University and Professor of Cardiology, Graduate School of Pennsylvania University addressed the North Side Branch of the Chicago Medical Society at the Drake Hotel, March 1st. His subject was "Heart Disease."

Russell D. Herrold of Chicago has been elected Secretary-Treasurer of the North Central Section of the American Urological Association.

The Twenty-first Lewis Linn McArthur Lecture of the Frank Billings Foundation of the Institute of Medicine was presented by Arnold R. Rich, Professor of Pathology of The Johns Hopkins University School of Medicine, February 23rd. His subject was "The Role of Hypersensitivity in the Pathogenesis of Rheumatic Fever and Periarteritis Nodosa."

The Illinois Society for Mental Hygiene sponsored a 2-day Institute on "Readjusting With The Returning Servicemen" at the Knickerbocker Hotel, Chicago on March 8th and 9th.

The Institute of Medicine of Chicago and the Central Service for the Chronically Ill held a luncheon meeting at the Standard Club, Chicago on March 6th at which time Herman L. Kretschmer spoke on "The Problem of the Chronically Ill Patient."

LA SALLE COUNTY

John W. Howser addressed the LaSalle County Medical Society on March 8th, subject "Intestinal Obstruction." The April 12th meeting will be held at the Kaskaskia Hotel, LaSalle

with the Illinois Valley Manufacturers Association presenting the program.

MACOUPIN COUNTY

M. F. Engman, Jr. of St. Louis will give a talk on "Skin Diseases of School Children" at the March 20th meeting of Macoupin County Medical Society.

UNION COUNTY

Charles D. Nobles has been appointed managing officer of the Anna State Hospital, Anna.

VERMILION COUNTY

Everett P. Coleman of Canton, President of the Illinois State Medical Society was the guest speaker at a joint dinner of the members of the Woman's Auxiliary of the Vermilion County Medical Society and the American Association of University Women at Danville on February 6th. His address was broadcast over radio station WDAN and was centered on recent legislative trends in medicine.

WILL-GRUNDY COUNTY

The following programs have been arranged for the luncheon meetings of Will-Grundy County Medical Society at 12:30 o'clock, Louis Joliet Hotel, Joliet:

March 2—Charles Edwin Galloway — Obstetrics
March 9—S. J. Zakon — "Office Dermatology"
March 16—Hilger P. Jenkins — "Plastic and Reconstruction Work of Interest to the General Practitioner"
March 23—P. S. Pelouze — "Venereal Diseases"
March 30—W. E. Adams — "Chest Diseases"

STATE DEPARTMENT OF PUBLIC HEALTH

Effective with the issue of January 6, the former weekly and biweekly bulletins of the Illinois Department of Public Health are combined and issued as the Weekly Report of the Division of Communicable Diseases. Tables are now used to indicate the current week's provisional case reports of the more important communicable diseases, both in the state as a whole and in Chicago. The case reports for the same week of last year and the five year median, when this is of significance, are also shown for the purpose of comparison.

Kenneth M. Morse, engineer in the Division, has been appointed temporarily to take charge of the division of industrial hygiene in the Illinois Department of Public Health.

MARRIAGES

Leonard V. Gratkins to Miss Mabel Johnson, both of Chicago, November 16, 1944.

DEATHS

Albert S. Albert, West Frankfort; Reliance Medical College, Chicago, 1911. Had practiced medicine in West Frankfort for 25 years. Died of pneumonia following an operation, January 27th, at the age of 64.

John Lenne Aleshire, Plainville; University Medical College of Kansas City, Mo., 1900. Died in January, aged 70.

Henry R. Boettcher, Chicago; Hahnemann Medical College, 1890. Chief eye surgeon for the Wabash Railroad, a trustee of Englewood Hospital and a director of First National Bank of Englewood. Died February 5th, aged 78.

Daniel W. Bowers, Calhoun; Barnes Medical College, 1895. Practiced medicine fifty years in Richland County and Bonpas township. Died, aged 83, January 16th.

LeRoy B. Chapin, retired, Canton; Northwestern University Medical School, 1897. Served as Fulton County physician for three years and also as a member of the staff of Graham Hospital; was coroner of Fulton County from 1924 to 1928. Died February 4th at the age of 81.

George H. Copia, Chicago; Loyola University School of Medicine, 1918. Died recently, aged 50.

Irving Samuel Cutter, formerly dean of Northwestern University Medical School and recently health editor of the Chicago *Tribune*, died in the Passavant Memorial Hospital, February 2, aged 69, of carcinoma of the prostate and generalized carcinomatosis.

Dr. Cutter was born in Keene, N. H., Dec. 5, 1875. For a year in 1896 he was instructor in a high school in Humboldt, Neb., principal at the Beatrice High School from 1898 to 1900 and general agent at Ginn and Company from 1900 to 1906. He received the degree of bachelor of science at the University of Nebraska, graduating there in medicine in 1910 and subsequently serving as instructor of physiologic chemistry, professor of biochemistry and director of the laboratory and, for the period 1915 to 1925, as dean. In the latter year he joined the Northwestern faculty as associate professor of medicine and dean, serving in the dual capacity until 1941, when he retired to become emeritus professor of medicine and dean. He had been medical superintendent of Passavant Hospital since 1928, serving also as trustee of Northwestern University and Wesley Memorial Hospital.

Dr. Cutter held the rank of captain in the medical corps of the U. S. Army, 1918-1919, serving in charge of medical service at Camp Gordon, Georgia, and

lieutenant colonel in the medical section of the Officers Reserve Corps from 1920 to 1929. He held membership in numerous societies and fraternities, including the American Chemical Society, Sons of the American Revolution, Alpha Omega Alpha, Chi Phi, Sigma Xi and Phi Rho Sigma, of which he had been president from 1927 to 1934. He held fellowship in the American Association for the Advancement of Science and served as chairman, member of the executive council and president in 1923 of the Association of American Medical Colleges. He was president of the Society of Medical History of Chicago in 1934 and at one time was vice president of the Illinois Social Hygiene League. Honorary degrees which he had received included the doctor of science from the University of Nebraska in 1925 and Northwestern University in 1941, and doctor of laws from Jefferson Medical College, Philadelphia, in 1931.

Dr. Cutter was a prolific writer for many years, and served also as first editor of the *Nebraska State Medical Journal* from 1916 to 1918 and member of the editorial board of the *Annals of Medical History*. Since 1934 he had been health editor of the Chicago *Tribune* and author of the daily column "How to Keep Well." In recognition of his services, Col. Robert R. McCormick, editor and publisher of the Chicago *Tribune*, gave property to Northwestern University for the establishment of a fund known as the Irving S. Cutter Fund for Medical Research. Included among his contributions to the literature are School of Medicine, History of Physical Therapy, History of Obstetrics and Gynecology and Laboratory Manual of High School Botany, of which he was a co-author.

James Franklin Dixon, Mount Erie; St. Louis College of Physicians and Surgeons, 1905. Passed away at the Olney Sanitarium after a long illness, in January, at the age of 70.

James K. Egbert, Elgin; Rush Medical College, 1886. Had practiced medicine in Sycamore and Chicago before coming to Elgin to live. Was blind the last two years of his life. Died February 5, at the age of 85.

Peter Hagedorn, retired, Chicago; Hahnemann Medical College and Hospital, 1891. Had practiced medicine on Chicago's south side for fifty years. Died February 15th, aged 85.

Walter H. O. Hoffmann, Chicago; University of Jena, Germany, 1897, and Rush Medical College, 1915. Member of the staffs of the Presbyterian and Children's Memorial Hospitals, and pediatrician at Chicago Memorial Hospital. Died February 11th, at the age of 72.

Charles R. Huggins, retired, Belleville; Marion-Sims College of Medicine, St. Louis, 1892. Had practiced medicine in Belleville for fifty years. Died in St. Elizabeth's Hospital January 26th, aged 82 years.

Thomas Franklin James, Chicago; Chicago College of Medicine and Surgery, 1916; died in the Mother Cabrini Hospital November 21st, 1944, aged 67, of cardiac dilatation and lobar pneumonia.

Elmer L. Kenyon, Chicago; Rush Medical College, 1896. Since 1903, he specialized in otolaryngology. In 1910 he established the second clinic for disorders of the voice and speech in the United States at Rush Medical College; since 1912 he taught disorders of speech at Rush, retiring in 1937 with the rank of Emeritus Associate Professor. Served as president of the Chicago Laryngological and Otological Society in 1919, of the Jackson Park Branch of the Chicago Medical Society in 1917-1918, and of the alumni Association of Rush Medical College in 1922. Died of a cerebral hemorrhage February 2nd, at the age of 84.

John E. Lee, Venice; Keokuk Medical College, 1892. For many years, mayor of Venice; president of the First National Bank of Madison; Died December 8, 1944, aged 69, of cerebral hemorrhage.

Lewis E. Martin, retired, Newton; Eclectic Medical College, Cincinnati, 1894. Had been in poor health for a couple of years. Died February 12th, aged 85.

John A. Neil, Chicago; Chicago College of Medicine and Surgery, 1910. Had practiced medicine in Chicago 30 years until he retired and moved to Florida last fall. Died in Tampa, Florida, January 26th, at the age of 64.

Walter Rowley Paddock, Lockport; Loyola University School of Medicine, 1896. Had practiced medicine almost half a century. Died January 27th, aged 71.

Roy B. Roberts, Brimfield; Ensworth Medical College, St. Joseph, Mo., 1897. Had practiced medicine in Brimfield for many years and was formerly mayor. Died in St. Francis Hospital, Peoria, following an operation, January 28th, at the age of 69.

Harlan D. Sheldon, Chicago; Bennett Medical College, 1910. Had practiced medicine in Chicago for 35 years. Died of a heart attack in his home February 4th.

Harold L. Sippy, Chicago; Northwestern University Medical School, 1928. Was instructor at Northwestern University Medical School and a member of the staff of St. Luke's Hospital. Was found dead in his automobile, February 15th the victim of carbon monoxide gas poisoning. He was 43 years of age.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.
Peoria, Ill.

FLORIDA

For all too long the bite and sting of winter has harassed us. The constant cold has chilled our spirit, the battle with ice and snow has exhausted our energy, the shortened days and lengthened nights have smothered our ambition and the monotony of a somber winter has sapped our morale.

For all too long the birds have been gone, the flowers have been dead, and the trees have stood stark and bare against bleak, relentless skies.

In vain we try to focus attention upon our routine tasks, to stifle an atavistic migratory instinct to escape and to erase from our minds diverting thoughts of golden sunshine, azure skies, gay flowers, tawny beaches and the warmth of blue-green waters.

We crave environmental change. We crave something in contrast to the enervating and demoralizing climatic bitterness we have endured.

And when we contemplate contrasts we think of Florida for Florida is a land of contrasts:

Primitive life in the hinterland and the tinseled complexities of life in the cities.

Poverty that is indescribable and wealth beyond imagination.

Travel by mule at three miles an hour and by aeroplane at 300.

Waste land that costs fifteen cents an acre in the original purchase and man made land the price of which would stagger a Croesus.

Diseased bodies from hook-worm, malaria and rickets and the bronzed physical perfection of healthy humans who parade the beaches.

Inaccessible swamp land jungles and gorgeous cultivated groves and gardens.

The humble attitude of the horde that serves and the arrogance of the few who dictate.

Verily Florida is a land of contrasts!

But the contrast that to some of us is the most unforgettable and fixes itself most indelibly in our memory is the contrast found in the names of its cities, towns and rivers.

Jacksonville, Gainesville, Blountstown, Fort Walton, Port St. Joe, Perry, Millsville, Leesburg, Bartow, Miami (if you know the origin of the name), Bradenton, Dade City, Fort Meyers, O'Brien, Newberry, Ormond, St. Petersburg, etc. etc. ad nauseam.

Could any group of names be more unattractive, more commonplace, more tiring and, in some instances, more ugly?

And then in charming contrast in these there abound countless beautiful, melodious, inspiring old Indian names that kindle one's curiosity and imagination and give zest and lure to one's travels:

Istokpoga, Hatchenehaw, Alachua,
Myakka, Okeechobee, Chattachoochee,
Nuona, Miccosukee, Wakulla, Chocta,
Oklawaha, Panasoffkee, Withlacoochee.

Seminole, Skawano, Yulee, Tallahassee,
Kissimmee, Suwannee, Apalachicola,
Pakokee, Caloosahatchee, Wewahitchka,
Ankona, Lacoochee, Holopaw, Chipola.

Wetappo, Loxahatchee, Okelanta,
Welaka, Okefenokee, Immokalee,
Palataka, Sopchoppy, Thonotosassa,
Hicpochee, Wacahoota, Ochlockonee.

Ortona, Muskogee, Tohopekaligo,
Narcoossee, Wimauma, Ocala, Apopka,
Wauchulo, Waukeenah, Olustee, Wabasso,
Ochopee, Dahoma, Wechyekapka.

Picolata, Okahumpka, Cassadaga,
Istachatta, Chuluota, Manatee,
Astatula, Nokomis, Lokosee, Osceola,
Minneola, Choctawhatches, Nocatee.

Verily Florida is a land of contrasts!

TOUPEES

It would seem to be ruled
That a man shall be fooled
As to ages of women these days,
For the daughter and mother
Are exactly each other
Both in garb and in frivilous ways.

And a man may be old
But his years are not told,
For he dresses the part of a youth;
It is often a bother
To tell offspring from father
In our efforts to get at the truth.

But the effort that fails,
Though it often prevails,
In attempts made to push back the years,
Is when bald headed men,
As they do now and then,
Wear toupees for our mirth and our jeers.

Wyeth
REG. U. S. PAT. OFF.

for COUGHS *due to colds*

CETRO-CIROSE

MODIFIED

(WITHOUT CODEINE)

WYETH

AN EXCELLENT VEHICLE FOR ADMINISTERING ADDITIONAL MEDICATION

CETRO-CIROSE* Modified is an effective cough remedy that will also serve as an excellent vehicle for the administration of ammonium chloride, benzoin, etc., in cases requiring additional medication. Flavored with wild cherry and menthol, it is well received by children and other taste-conscious patients. Because it is free of sugar, Cetro-Cirose Modified can be used with the assurance that it will not upset the stomach.

EACH FLUIDOUNCE CONTAINS:

Chloroform	1½ minims
Alcohol	1½ per cent
Fluidextract of Ipecac	1 minim
Glycerin	240 minims
Potassium Guaiacolsulfonate	8 grains
Sodium Citrate	18 grains
Citric Acid	6 grains

Flavored with Wild Cherry and Menthol.

SUPPLIED in pint and 1 gallon bottles.

ALSO AVAILABLE— Cetro-Cirose containing ½ grain codeine phosphate in each fluidounce.

Wyeth

*REG. U. S. PAT. OFF.



WYETH INCORPORATED • PHILADELPHIA 3 • PENNA.



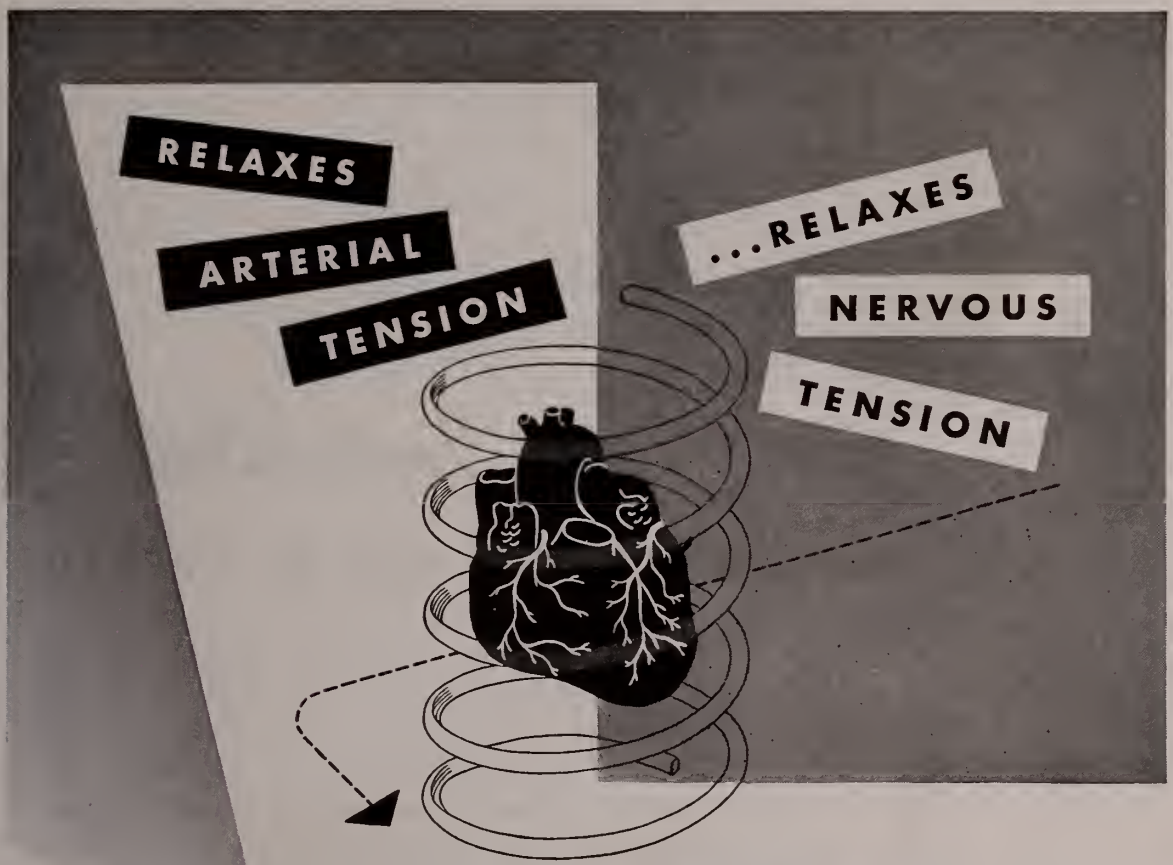
ELECTRONIC control plays an important part in making Lanteen products. With the photofluorometer and spectrophotometer quantitative analysis to one-millionth part of a gram is possible. Control of the efficacy of its products, by latest scientific means, is the constant aim of Lanteen Medical Laboratories. Lanteen Flat Spring Mensinga Type Diaphragm is available *on the prescription of a physician.*

L A N T E E N

COPYRIGHT 1945. LANTEEN MEDICAL LABORATORIES, INC., CHICAGO 10



Since patients are not mechanically minded, simplicity and ease of handling are prime requisites for continued use. Lanteen Flat Spring Diaphragm is extremely simple to place—it is collapsible in one plane only. No inserter required.



NITROBAR

IMPORTANT ACCOMPLISHMENTS in the treatment of essential hypertension:

1 gradual lowering of the blood pressure and a subsequent prolonged period of low pressure

2 relaxation of the patient's general nervous tension

The bismuth subnitrate (5 gr.) in Nitrobar is reduced in the intestine and thus provides a gradual stream of nitrite ions which relax the vessel walls and bring the blood pressure down in a long curve, maintaining this low level for a matter of hours.

The addition of phenobarbital ⅛ gr. together with ext. passiflora ½ gr. and ext. lupulus ½ gr. induces the "mental relaxation" necessary to relief of hypertension. Nitrobar Comp. is supplied in engestic coated red tablets. Caution: Use only as directed.

Bottles of 100, 500 and 1000

McNeil Laboratories
INCORPORATED
PHILADELPHIA • PENNSYLVANIA



Indicated —

THOUGH SURGERY MAY BE NEEDED

Biliary tract surgery, though a true etiologic approach to the motivating disease, cannot immediately restore impaired liver function and bile flow. In fact, the impact of anesthesia and surgical manipulation may temporarily aggravate the existing hepatobiliary symptoms. Hence it appears imperative that further functional impairment be prevented and that the liver be assisted toward speedy resumption of secretory activity.

Decholin (chemically pure dehydrocholic acid) is of proven efficacy as a valuable aid before and after biliary tract surgery. Its specific hydrocholeretic action produces a copious flow of thin liver bile which is secreted under increased pressure and thus proves effective in physiologic drainage of the hepatobiliary pathways. Decholin is contraindicated only in complete obstruction of the common or the hepatic bile ducts.

SUPPLIED

Decholin in 3¾ grs. tablets. Boxes of 25, 100, 500 and 1000; and Decholin sodium in ampuls (3, 5, 10 cc).

Riedel - de Haen, Inc. • New York 13, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

COUNCIL ACCEPTED SINCE 1932

Decholin

REG U.S. PAT. OFF

PACE-MAKER OF BILE ACID THERAPY



In the increasing incidence of B-complex deficiency — increasing because of greater energy demands and lessened food availability — Noviplex deserves the physician's consideration. It provides the essential components of the B-complex in approximately the proportions required by the human organism. Since it is largely derived from high potency yeast concentrate, Noviplex provides all the naturally occurring factors, including choline, inositol, and biotin.

NOVIPLEX



Each capsule of Noviplex contains:

Thiamine hydrochloride (B_1) (1mg.)	333 U.S.P. Units
Riboflavin (B_2,G)	1 mg.
Nicotinamide (niacinamide)	8 mg.
Pyridoxine hydrochloride (B_6)	0.5 mg.
Calcium pantothenate	1 mg.

plus all other factors naturally occurring in yeast concentrate. Noviplex is supplied in bottles of 100, 500 and 1000 capsules.

THE S. E. MASSENGILL COMPANY
Bristol, Tenn.-Va.

NEW YORK • SAN FRANCISCO • KANSAS CITY

SEMCO



Hot Springs, Arkansas, in the Nineties

TODAY A SPARKLING SALINE LAXATIVE WHEREVER NEEDED

A stay of several weeks in a Spa is beyond the reach of many patients. Yet one important feature of most Spas is available to everybody wherever and whenever needed—a sparkling saline laxative.

Analyses of famous mineral waters have indicated that sodium sulfate, sodium chloride and sodium bicarbonate are often the most important ingredients. These same salts are skillfully combined with sodium phosphate, lithium carbonate and tartaric acid in pleasant-tasting SAL HEPATICA to create gentle "Liquid Bulk" for effective cleansing of the intestinal tract.

For a gentle, more efficient laxative or thorough cathartic—direct your patients to dissolve SAL HEPATICA *in a large glass (8 oz.) of water. Laxative Dose: 1 to 2 level tsps. Cathartic Dose: 4 level tsps.*

A Product of Bristol-Myers Company, 19 RR West 50th Street, New York 20, N. Y.

TO HELP FLUSH THE INTESTINAL TRACT

Sal Hepatica SUPPLIES Liquid Bulk!





WHEN NUTRITION MUST BE MAINTAINED

Few are the diseases in which maintenance of the nutritional state is less important than specific therapy. For unless the metabolic demands of the morbid organism are adequately satisfied, maximal response to drug administration hardly can be expected.

In a host of febrile, infectious, and neoplastic diseases Ovaltine can be of considerable benefit in supplying the extra nutrients required during periods of greater need. This nutritious food drink, made with milk, supplies the dietary elements required: adequate protein, readily assimilated carbohydrate, B complex and other vitamins, as well as important minerals. Ovaltine leaves the stomach rapidly because of its low curd tension, hence may be taken as frequently as deemed necessary. And its delicious taste encourages adequate consumption, an important factor in combating the anorexia of many diseases.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



Ovaltine

Three daily servings of Ovaltine, each made of ½ oz. Ovaltine and 8 oz. of whole milk,* provide:

PROTEIN	31.2 Gm.	VITAMIN A	2953 I.U.
CARBOHYDRATE	62.43 Gm.	VITAMIN D	480 I.U.
FAT	29.34 Gm.	THIAMINE	1.296 mg.
CALCIUM	1.104 Gm.	RIBOFLAVIN	1.278 mg.
PHOSPHORUS	.903 Gm.	NIACIN	7.0 mg.
IRON	11.94 mg.	COPPER	.5 mg.

*Based on average reported values for milk.



MEDICAL ADVICE is sought and followed on most problems of health, but a man's diet—however irrational—is sacred! Thus, improper eating habits may be difficult to alter, especially where adults are concerned. Moreover, selection or preparation of an adequate diet requires skill as well as wisdom,[1] since the nutritional value of a natural, unstandardized foodstuff depends largely upon the conditions under which it is produced and prepared.[2] As a result, dietary inadequacy is widespread[3] and vitamin B-complex deficiencies constitute the most serious feature of the problem.[4]

Administration of a standardized preparation such as ELIXIR 'B-G-PHOS' assures an adequate intake of the essential factors of the B-complex. ELIXIR 'B-G-PHOS' provides the essential elements of vitamin B-complex—Thiamine (vitamin B_1), riboflavin (vitamin B_2 or G), and niacinamide—together with the glycerophosphates of calcium, manganese, sodium and potassium.

ELIXIR 'B-G-PHOS' will be found to be an exceptionally palatable preparation. It stimulates a healthy appetite, aids assimilation by increasing absorption and the flow of gastric juices, and tends to accelerate the activity of gastric ferments.

Supplied in both pint and gallon bottles.
Sharp & Dohme, Philadelphia 1, Pa.

1. Science, *97*:385, 1943. 2. J. A. M. A. *119*:945, *120*:831, 1943; Digest of Treatment, *6*:835, 1943; New England J. Med. *228*:8, 1943. 3. New England J. Med. *228*:118, 1943. 4. South. Med. J. *34*:89, 1941.

Elixir **'B·G·PHOS'**

it's so potent

that its dosage is measured in hundredths of a milligram . . . it is, in fact, the most potent of oral estrogens . . . that's why

it's less expensive

to prescribe ESTINYL* . . . the average menopausal patient requires only 0.10 to 0.15 mg. a day and easily controlled cases often require as little as 0.02 mg. every other day.

ESTINYL

17 ethinyl estradiol, a derivative of the true follicular hormone, for *low cost estrogenic therapy.*

Relatively free from the toxic side reactions which characterize the non-steroid, synthetic compounds, ESTINYL is indicated in the treatment of menopausal disorders and sequelae such as pruritus vulvae, senile vaginitis, and kraurosis vulvae; as well as juvenile gonorrheal vaginitis and hypo-ovarianism. Available in tablets of 0.05 mg. and 0.02 mg. in bottles of 30, 60 and 250 tablets.

SCHERING

*Trade-Mark Reg. U. S. Pat. Off.

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SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

NEW



...A more complete prophylaxis and treatment for secondary anemias

THERAPY of nutritional anemias with iron, iron and copper, liver concentrates, and Vitamin B Complex, has been advocated for many years.

All these agents now are combined in *FER-DONA* I.V.C.—*new product of choice in the prophylaxis and treatment of hypochromic and secondary anemias.*

FER-DONA employs *whole liver* substance fortified with a liver concentrate of blood-forming *Vitamin B Complex* factors.

FER-DONA contains bivalent *iron* —claimed to be clinically more effective than other forms of iron. *Copper*, too, is inherently present in FER-DONA.

FER-DONA contains pepsin which contributes to its easy digestibility. Vanillin and coumarin guarantee a pleasant flavor and odor.

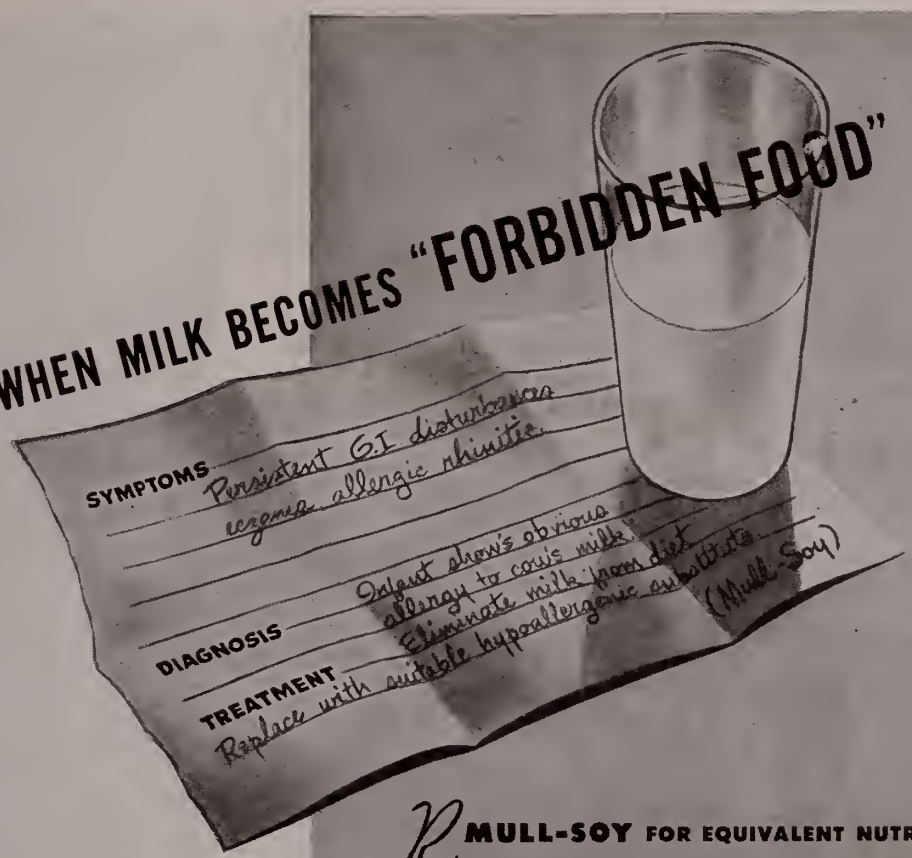
A product of the International Vitamin Corporation, "The House of Vitamins," 22 East 40th Street, New York 16, New York.

The suggested daily dose of six (6) Fer-Dona capsules provides Vitamin B Complex Factors B_1 (Thiamine), B_2 (G) (Riboflavin), and PP (Niacin Amide) in the quantities recommended by the National Research Council, as well as liver fortified in hematopoietic B-Vitamins and iron.

I.V.C. **FER-DONA**

REG. U. S. PAT. OFF.

I. V. C. Capsules with Vitamin B Complex for Secondary Anemias



COMPARATIVE COMPOSITION

1 Part Mull-Soy 1 Part Water		Average Whole Cow's Milk
3.1%	Protein	3.3%
4.0%	Fat	3.8%
4.5%	Carbohydrate	4.9%
1.0%	Total Minerals	0.7%
87.2%	Water	87.3%

Each provides 20 calories per fluid ounce



℞ MULL-SOY FOR EQUIVALENT NUTRITION

While the manifestations of milk allergy or intolerance are most often seen in infants, they may be present at any age. And, when successful treatment demands complete elimination of milk from the diet, replacement by food approximately equivalent in nutritional elements becomes imperative.

MULL-SOY is an effective hypoallergenic substitute for cow's milk... a concentrated, emulsified liquid soy bean food which closely approximates cow's milk in protein, fat, carbohydrate and mineral content. It is palatable, well tolerated, easy to digest, and easy to prepare. Infants particularly relish MULL-SOY... and thrive on it!

Copies of "Tasty Recipes for Mull-Soy in Milk-Free Diets" are available for distribution to milk-allergic patients. Write

BORDEN PRESCRIPTION PRODUCTS DIV., 350 MADISON AVE., NEW YORK

MULL-SOY

Hypoallergenic Soy Bean Food

MULL-SOY is a liquid emulsified food, prepared from water, soy bean flour, soy bean oil, dextrose, sucrose, calcium phosphate, calcium carbonate, salt and soy bean lecithin, homogenized and sterilized. Available in 15½ fl. oz. cans at all drug stores.

ACCEPTED AMERICAN MEDICAL ASSN



"From the point of view of preventive medicine, the evidence is conclusive that there is great opportunity to improve the health of the nation by increasing the vitamin B complex content of the diet of a considerable part of our population."[1]

'Tabloid' Yeast Concentrate contains the *entire* B complex, thus providing in addition to well-established factors those lesser known components whose physiological roles are important but difficult to define accurately.

Although 'Tabloid' Yeast Concentrate is prepared from selected brewers' yeast, it does not contain fresh yeast's active enzymes or live cells which may cause intestinal fermentation and abdominal discomfort.

1. Sebrell, W. H., Ann. Int. Med. 15:953, 1941.

Preparation: 'Tabloid' Yeast Concentrate, gr. 4 (0.26 gm.) Sugar coated. Bottles of 100 and 500. Dosage: Depending on the degree of Vitamin B complex deficiency— 1-3: t.i.d., a.c.

'Tabloid' Registered Trademark

'TABLOID' YEAST CONCENTRATE

BURROUGHS WELLCOME & CO. (U. S. A.) INC. 9-11 East 41st Street, New York 17, N. Y.

recent extensive investigation confirms contraceptive effectiveness of the active ingredient in Koromex Jelly

A most illuminating report based on extensive clinical and experimental data has recently been published by Eastman and Scott (Human Fertility, 9:33, (June) 1944.) These authors studied the safety and efficacy of phenylmercuric acetate which is the active constituent of Koromex Jelly.

1 Clinical evidence showed that in actual use, phenylmercuric acetate jelly had a remarkable record for contraceptive efficiency.

2 The earlier work of Baker, Ranson and Tynen (Lancet, 2:882, (October 15), 1938), showing a very high spermicidal potency, was confirmed.

3 Toxicity was found low.

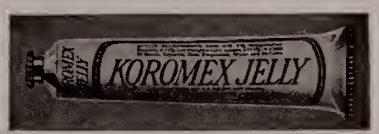
4 No evidence of irritability on the part of either the husband or wife.

In addition to the above qualities, Koromex Jelly, which also contains oxyquinoline benzoate and boric acid in a well buffered glycerine gum base, has the properties of adhering firmly to the vaginal lining and mixing readily with the vaginal secretions. It has optimum spreading qualities. Its pH of 4.6 is constantly maintained even in the presence of the buffering action of the protein seminal fluid.

Koromex Jelly does not stain. Is not excessively lubricating, and is well tolerated. Because of these qualities you can assuredly — prescribe Koromex *with confidence.*

Write for Literature.

Holland-Rantos Company, Inc. · 551 Fifth Ave. · New York 17, N. Y.



prescribe Koromex *with confidence*

In the Management of Arthritic Patients

"VITAMINS IN ABUNDANCE SHOULD BE PROVIDED"

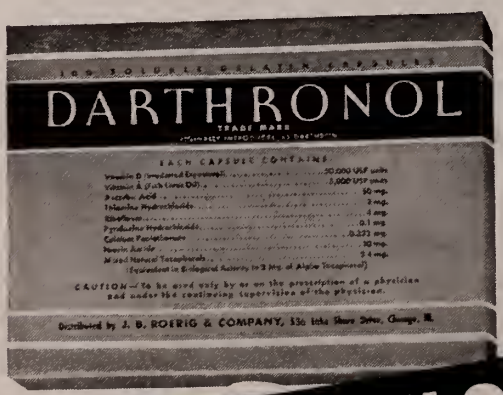
In the 1943 edition of Nutrition and Diet in Health and Disease, McLester emphasizes the importance of large amounts of all the essential vitamins in the treatment of chronic rheumatoid arthritis. He states that "Vitamins in abundance should be provided."

MOST rheumatologists have long recognized this need for all the vitamins—in addition to any specific requirement—in the management of the arthritides. The reports of many clinical investigations have emphasized the systemic nature of chronic arthritis and have revealed that best results were obtained when in addition to massive doses of vitamin D the other vitamins were administered simultaneously.

For the convenience of the physician in prescribing all these vitamins, and to assure greater patient cooperation, Darthronol has been designed to supply in each capsule adequate amounts of all the known essential vitamins in addition to 50,000 U.S.P. units of vitamin D.

J. B. ROERIG & COMPANY

536 Lake Shore Drive • Chicago 11, Illinois



Each Capsule of Darthronol Contains:

Vitamin D (Irradiated Ergosterol)	50,000 U.S.P. Units
Vitamin A	5,000 U.S.P. Units
Ascorbic Acid	50 mg.
Thiamine Hydrochloride	2 mg.
Riboflavin	1 mg.
Pyridoxine Hydrochloride	0.1 mg.
Calcium Pantothenate	0.333 mg.
Niacinamide	10 mg.
Mixed Natural Tocopherols	3.4 mg.

DARTHRONOL *for the Arthritic*

a **ROERIG** *Preparation*

Originally Introduced as DARTHRON



PENICILLIN SCHENLEY

Product of a common mold...but most uncommon care

The mold which produces penicillin is a mold of a fairly *common* variety, occurring freely in nature. But the production of penicillin for the medical profession depends upon precautions to insure sterility which are *most uncommon.*

One of the most important requirements of the finished penicillin is freedom from pyrogens. Each manufactured lot of PENICILLIN Schenley is tested (as illustrated above) to insure utmost pyrogen-freedom. Such measures of uncommon care will continue to assure the greatest degree of productivity . . . the highest degree of pyrogen-freedom . . . for PENICILLIN Schenley.



S C H E N L E Y L A B O R A T O R I E S, I N C.

Producers of **PENICILLIN** SCHENLEY • Executive Offices: 350 Fifth Avenue, N. Y. C.

Effective Convenient Economical

THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

Complete literature will be furnished on request.



HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND

Book Reviews

THE AVITAMINOSES; The Chemical and Pathological Aspects of the Vitamin Deficiency Diseases. By Walter H. Eddy, Ph.D., Emeritus Professor of Physiological Chemistry, Teachers College, Columbia University; and Gilbert Dalldorf, M.D., Pathologist of the Grasslands and Northern Westchester Hospitals, Westchester County, New York. Third Edition. The Williams & Wilkins Company, Baltimore, 1944. Price $4.50.

The first edition of this book was published in 1937, the second in 1941, and this, the third edition, in December of 1944. There have been so many new facts concerning vitamins developed during the past three years that it has been necessary to completely revise the material. The authors state that to date more than 30 vitamins have been postulated, some have been isolated and chemically identified, and some have actually been manufactured in laboratories synthetically, while others have been identified only by animal behavior and still await isolation and confirmation of claims.

The book gives much information concerning vitamins, their chemistry, function, and the effects of mild and extreme deficiencies, as well as their recognition and proper treatment. The book is properly divided into three parts, the first on vitamins, chemical nature, behavior, vitamin requirements and the nature and function of the now known essential vitamins.

Part two is the complete story of the avitaminoses, showing the effects of a deficiency of the essential vitamins and the proper methods of handling these deficiencies through administration of vitamins and the use of proper diets.

The third part deals with the subject of vitamin assay methods, laboratory tests useful in the diagnosis and study of vitamin deficiency diseases, then the usual bibliography and appendix.

It is quite obvious that the authors have gone over a vast amount of literature in preparing this work, and have selected the significant material to give the practical information therein contained. The book is a valuable addition to the modern medical library and will no doubt be used frequently by physicians who have access to it.

(*Continued on page* 54)

NEW, More Effective Topical Chemotherapy for Common Otologic Infections

***White's* OTOMIDE** is a stable solution of sulfanilamide and carbamide (urea) in glycerin of high specific gravity.

Anhydrous chlorobutanol, a recognized local anesthetic agent *that is therapeutically compatible with sulfonamides*, is included in the formula for its analgesic and antipruritic properties.

FORMULA:

Carbamide (Urea)	10%
Sulfanilamide	5%
Chlorobutanol (anhydrous)	3%
Glycerin (h.sp.gr.)	q.s.

Therapeutic properties of Carbamide component of Otomide:

1. Chemically debrides lesion by solvent effect on necrotic tissues.
2. Renders sulfanilamide effectively antibacterial even in the presence of pus.
3. Solubilizes sulfanilamide, effects higher tissue concentrations of sulfonamide.
4. Increases diffusibility of sulfanilamide through living and dead tissues.
5. Is free from irritating effect on living tissues.



INDICATIONS: Local management of suppurative and nonsuppurative otitis media, and of sulfonamide-susceptible infections of external auditory canal.

White's Otomide is available in dropper bottles of one-half fluid ounce (15 cc.).

IMPORTANT: Please note that your patient requires your prescription to obtain this product from the pharmacist.

White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 2, N. J.

White's

OTOMIDE

HARROWER
ENDOCRINES

ENDOTHYRIN

Thyroid Extract
(thyroglobulin)

Dependable
Potency
(iodine 0.62%)

Lower Toxicity
(better tolerated . . .
less heart-stimulating
effects)

Samples and
literature
on request

The HARROWER LABORATORY, Inc.
GLENDALE, CALIFORNIA
NEW YORK CHICAGO DALLAS

BOOK REVIEWS (Continued)

THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF AMEBIASIS: By Charles Franklin Craig, M.D., M.A., (Hon.), F.A.C.S., F.A.C.P., Colonel, United States Army, Retired, D.S.M. Late Commandant, Army Medical School, and Assistant Commandant, Army Medical Center, Washington, D. C., Emeritus Professor of Tropicl Medicine, Medical School, Tulane University of Louisiana, New Orleans, La., Illustrated. The Williams & Wilkins Company, Baltimore, 1944. Price $4.50.

Ten years ago the author published his book, "Amebiasis and Amebic Dysentery", giving the information available at that time on the subject. During the past ten years there has been a great deal of research on this important subject and much information relative to amebiasis which the author has incorporated in his new work.

Amebiasis is quite prevalent throughout the tropics and with the hundreds of thousands of our troops now in that area, it becomes a problem of much interest to the medical officers, as well as public health officials who are interested in the health of our troops. It seems quite probable that thousands of men returning from service in the tropical areas will be infected with the endameba hystolytica, the causative organism. More information on the diagnosis and treatment of these cases should be available for physicians throughout the United States.

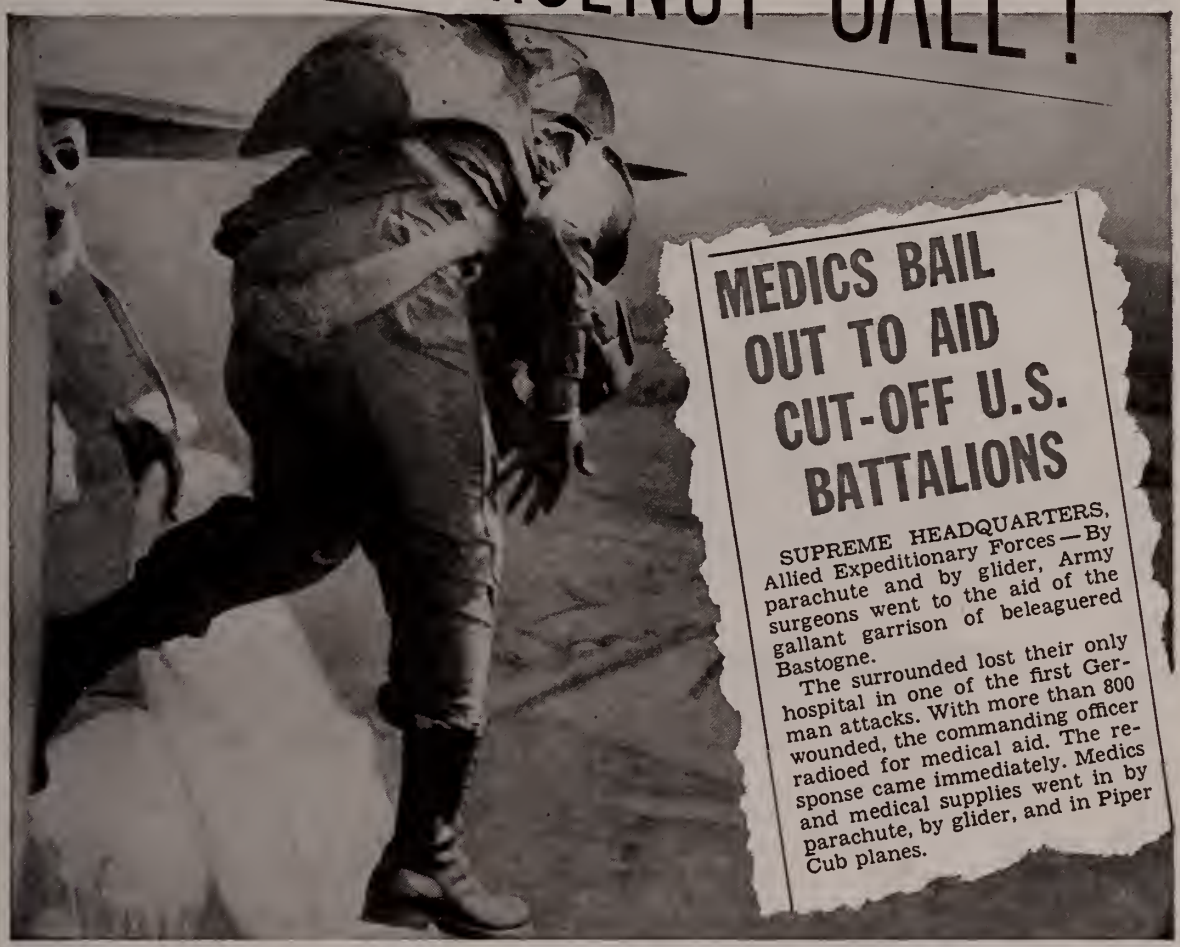
The book is well arranged, giving historical data, geographical distribution, etiology, epidemiology, pathology, symptomatology, complications and sequelae, clinical and laboratory diagnosis, prognosis and the treatment of amebiasis.

This book should be of much interest to physicians in general, and especially to those with the armed forces in areas where amebiasis is prevalent. Likewise it should be of much value to public health officials in general, who are charged with the responsibility of stamping out epidemics of all types of communicable diseases. The book contains much of interest, and perhaps all of the available data at the moment on this highly important subject.

SURGERY OF MODERN WARFARE: Edited by Hamilton Bailey, F.R.C.S., Surgeon, Royal Northern Hospital, London; Surgeon, E.M.S.; Surgeon and Urologist, County Hospital, Chatham; Senior Surgeon, St. Vincent's Clinic and the Italian Hospital; Consultant in Genito-Urinary and General Surgery, Peterborough Hospital; Consulting Surgeon, Essex County Council and Clacton Hospital; formerly External Examiner in Surgery, University of Bristol; Temporary Surgeon-Lieut., Royal Navy. Sub-Editor for Medicine, C. Allan Birch, M.D., M.R.C.P., D.C.H., D.P.H., M.M.S.A., Senior Physician, North Middlesex County Hospital. Compiled by Seventy-seven Contributors. Two Volumes. Third Edition. The Williams & Wilkins Company, Baltimore, 1944. As this is the third edition of this two volume work

(*Continued on page* 56)

EMERGENCY CALL!



MEDICS BAIL OUT TO AID CUT-OFF U.S. BATTALIONS

SUPREME HEADQUARTERS, Allied Expeditionary Forces — By parachute and by glider, Army surgeons went to the aid of the gallant garrison of beleaguered Bastogne.

The surrounded lost their only hospital in one of the first German attacks. With more than 800 wounded, the commanding officer radioed for medical aid. The response came immediately. Medics and medical supplies went in by parachute, by glider, and in Piper Cub planes.

FROM Bastogne to Leyte, the story is being repeated over and over again—of Army doctors, braving the battle hazards of the front line, risking *their* lives to *save* lives.

Emergency call? *Every* call is an emergency call to these *heroes in white.*

And with the Army doctor, as with the fighting men they care for, rest is often limited to a few moments of relaxation and a good cigarette. A Camel cigarette, more than likely, for Camels are the favorite with men in all the services, according to actual sales records.

BUY WAR BONDS STAMPS



CAMELS

COSTLIER TOBACCOS

R. J. Reynolds Tobacco Co., Winston-Salem, N. C.

CLINITEST - -

The Reliable and Easy Tablet Test for Urine-Sugar
A Standardized Method Requiring No External Heating.



Now STREAMLINED - -

Laboratory, Office and Patient Use

CLINITEST Laboratory Outfit (No. 2108) — **for your office,** complete with tablets for 180 tests, test tubes, rack, droppers, color scale and instructions. Additional tablets can be purchased as required.

CLINITEST Plastic Pocket-Size Set (No. 2106) — **for your patients,** all essentials for testing compactly fitted into small, durable "Cigarette-Package Size" kit. Patients will cooperate in keeping up testing routine.



Clinitest saves time and expense. Order today from your local supplier.

Write for complete information on the Clinitest Tablet Method and for physicians' prices.

AMES COMPANY, INC., Elkhart, Indiana

BOOK REVIEWS (Continued)

on war surgery in less than three years, it speaks well for the popularity of the book. Realizing that as the war goes on, surgery is constantly changing with the many improvements in technic as well as different ideas in connection with the surgical management of many conditions, the work was revised in various parts.

It seems rather strange that although this work has been officially approved by the United States and in other countries, it has not been accepted officially in Great Britain where it was written. It was compiled from material received from seventy-seven contributors. The two volumes are divided into 21 sections; the first seven sections give considerations to types and classifications of war wounds, first aid management of the casualties, frost bite, burns and skin grafting, anesthetization, general operative considerations of wounds, special infections and their management, and special considerations concerning the management of casualties.

Other sections deal with treatment of wounds in all parts of the body with sections on wounds of blood vessels, methods of immobilization of limbs, amputations, wounds of bones and joints, etc. The section on amputations is most interesting and will appeal to surgeons who read the book. The many methods of immobilization are well presented as is also that portion dealing with the use of plaster in the treatment of many tyes of bone and joint injuries.

There are more than 1100 illustrations, many in color, which add materially to the value of the work. It should be most popular in this country as a modern treatise on surgical subjects of interest not only to those in military service but likewise to the general surgeon and those doing industrial surgery in the many essential plants throughout the country.

CLINICAL HEART DISEASE: By Samuel A. Levine, M.D., F.A.C.P., Assistant Professor of Medicine, Harvard Medical School; Physician, the Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton Hospital; Physician, New England Baptist Hospital, Boston. Third Edition, Revised and Reset. W. B. Saunders Company, Philadelphia and London, 1945. Price $6.00.

This third edition of a previously popular book has been revised and reset to bring it up to date so that it may present in simple form the important aspect of the diagnosis, prognosis and treatment of heart disease. The material is planned especially for the general practitioner. The author states that the arrangement of chapters does not follow any particular plan, but each is distinct in itself and endeavors to give the busy practitioner the information which may be desired at the moment.

Quite appropriately the subject of rheumatic fever and the development of the rheumatic disease is well discussed in the early chapters of the book, then in turn valvular heart diseases and diseases of the pericardium.

(*Continued on page* 58)

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BOOK REVIEWS (Continued)

The ever increasing problems in connection with angina pectoris and coronary thrombosis are discussed in much detail and in a manner which should appeal especially to the average reader. Likewise the importance of hypertensive heart disease is well brought out in much detail in chapter seven.

The clinical significance of cardiac murmurs will also be of much interest to the busy physician seeking information hurriedly. Chapter XX on the nature and treatment of congestive heart failure will be of special interest to the average reader who will indeed be well repaid for the time required to give it careful attention. Treatment of these conditions is given in much detail with special emphasis on the use of digitalis, the most important drug in congestive heart failure. Likewise the use of diuretic drugs is given careful consideration with an evaluation of the different types and their definite indications.

The last chapter on clinical electrocardiography covers approximately 150 pages and will be of great interest especially to those none too well familar with the clinical significance to the electrocardiogram in regard to its diagnostic and prognostic value.

Although not a long book, Clinical Heart Disease is veritably a "must" for the average practitioner who desires information relative to the frequently seen cardiac disturbances, and it is quite obvious that most of his questions will be answered in the book.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

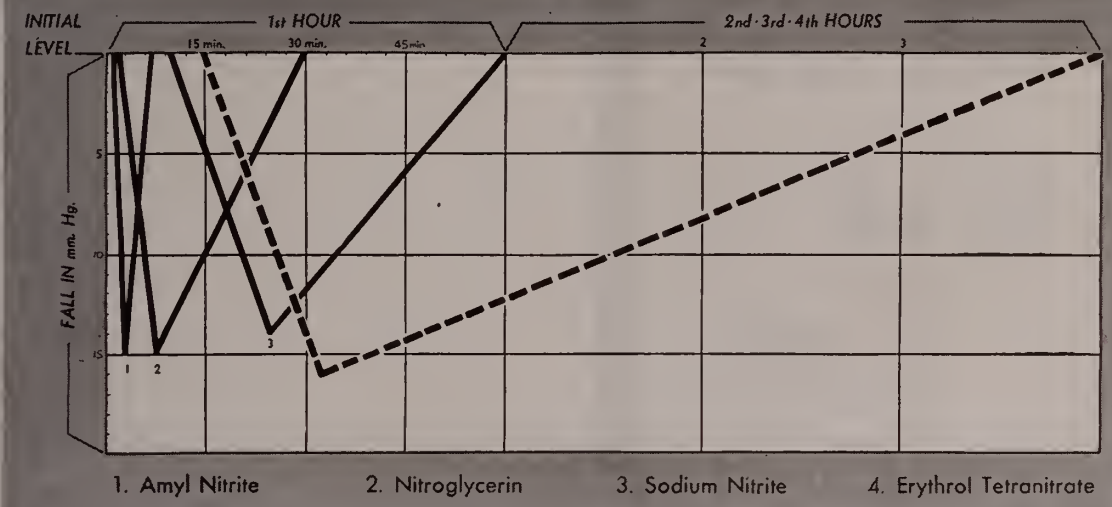
THE MARIHUANA PROBLEM IN THE CITY OF NEW YORK. Sociological, Medical, Psychological and Pharmacological Studies: By the Mayor's Committee on Marihuana. The Jaques Cattell Press, Lancaster, Pennsylvania. Price $2.50.

A TEXTBOOK ON PATHOLOGY OF LABOR, THE PUERPERIUM AND THE NEWBORN: By Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine; Consulting Obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital, and Sunny Side Sanitarium. With 191 Illustrations Including 10 in Color. St. Louis. The C. V. Mosby Company, 1944. Price $7.50.

THE ABORTION PROBLEM: Precedings of the Conference Held Under the Auspices of the National Committee on Maternal Health, Inc., at the New

(*Continued on page* 60)

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York Academy of Medicine. Howard C. Taylor, Jr., M.D., Conference Chairman. Published for National Committee on Maternal Health, Inc., By The Williams & Wilkins Company, Baltimore, 1944.

MICROBIOLOGY AND PATHOLOGY: By Charles F. Carter, B.S., M.D., Instructor in Microbiology and Pathology, Parkland Hospital School of Nursing, Dallas, Texas; Director Carter's Clinical Laboratory, Dallas, Texas; Consulting Pathologist, St. Louis Southwestern Railway Hospital, Texarkana, Arkansas; Consulting Pathologist, Mother Frances Hospital, Tyler, Texas; Formerly Director of Laboratories, Parkland Hospital. With 200 Text Illustrations and 25 Color Plates. Third Edition. St. Louis. The C. V. Mosby Company, 1944. $3.50.

THE 1944 YEAR BOOK OF INDUSTRIAL AND ORTHOPEDIC SURGERY: Edited by Charles F. Painter, M.D., Orthopedic Surgeon to the Massachusetts Women's Hospital and Beth Israel Hospital, Boston. The Year Book Publishers, Inc., Chicago. Price $3.00.

ARTERIAL HYPERTENSION: Its Diagnosis and Treatment. By Irvine H. Page, M.D. and Arthur Curtis Corcoran, M.D., Research Division of the Cleveland Clinic Foundation, Cleveland; Formerly Lilly Laboratory for Clinical Research, Indianapolis City Hospital, Indianapolis. The Year Book Publishers, Inc., Chicago. Price $3.75.

FIVE MORE HOSPITAL SHIPS

The War Department stated that five more troop ships will be converted into United States Army hospital ships in order to insure speedier return of America's combat wounded. This addition will bring the number to twenty-nine such vessels operated by the Transportation Corps, Army Service Forces, and will have a total capacity of more than 18,000 sick and wounded. Conversion of the new ships is expected to be completed so that they will be ready for use in June or July.

On the basis of data available from different parts of the country it is clear that there was a definite increase in the death rate from tuberculosis in many of the industrial cities in the north-central and northeastern part of the country last year, with a normal decline in other parts of the country. In Massachusetts the increase has been largely among the older age groups with an excess among males. In my opinion this increase is largely the result of breakdown among older men who are working beyond their strength. A larger number than usual of patients with a diagnosis of tuberculosis are refusing sanatorium treatment and a certain number are leaving the sanatorium against advice to take jobs at the high wages now available. It is probable that overcrowding due to the present shortage of housing is of importance in the spread of tuberculosis, but there has so far been no increase in tuberculous meningitis and generalized tuberculosis in children such as occurred in England during the first two years of the war.—Alton S. Pope, M.D., Massachusetts Bull., Dec. 1944.

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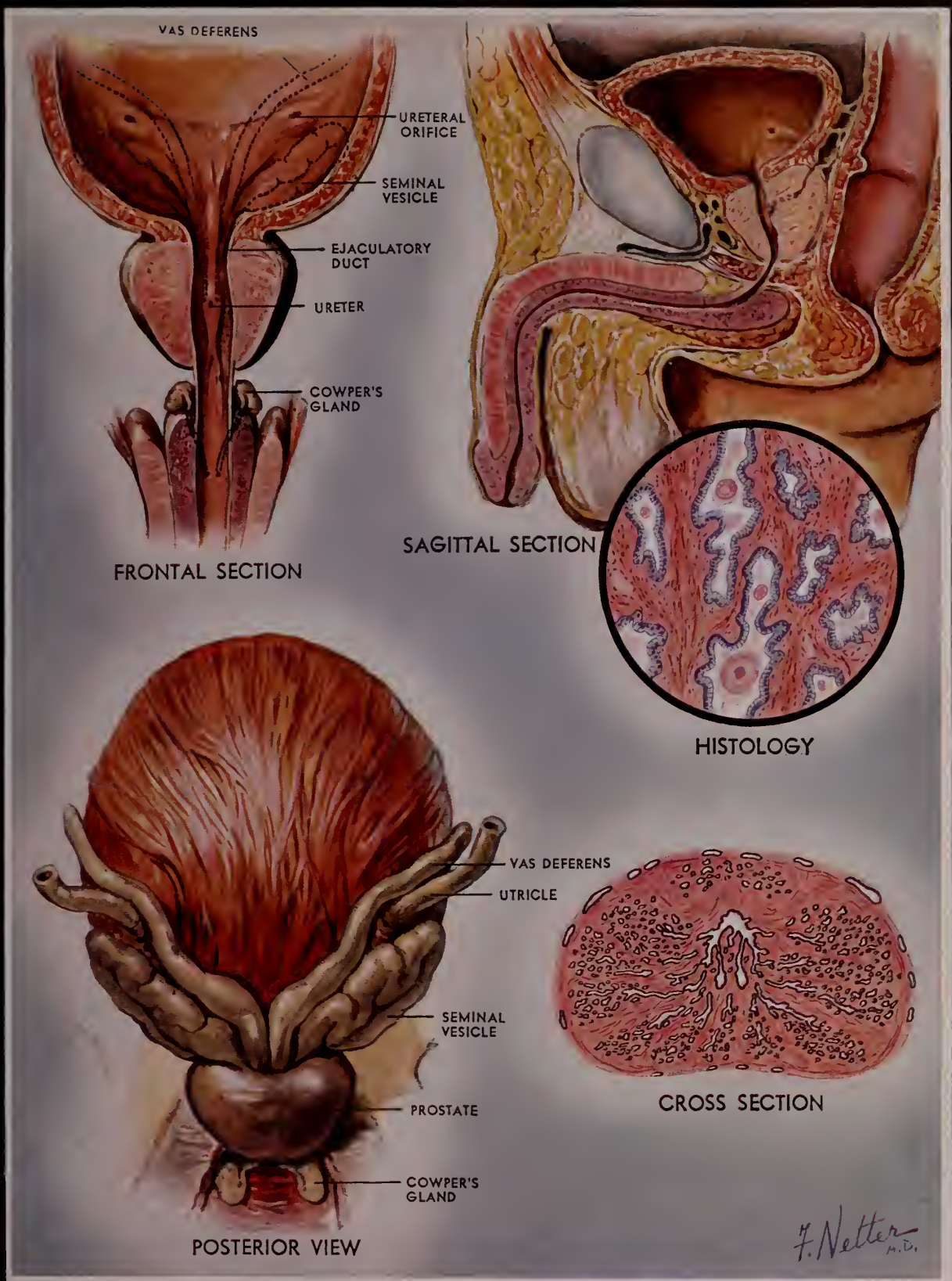
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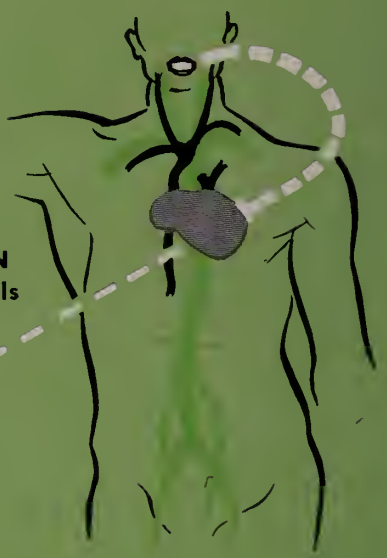
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Pointing out that about 40 per cent of normal women suffer a considerable amount of distress during their premenstrual period, S. Charles Freed, M.D., San Francisco, says in *The Journal of the American Medical Association* for February 17 that the administration by mouth of the synthetic male sex hormone, methyl testosterone, "is the surest and most convenient therapeutic agent in this respect."

He says that "The disability of most of these women during this period is moderate and obviously effects chiefly their intimate social contacts. Nevertheless the subjective disturbances undoubtedly lead to inefficiency and a decrease in ability to concentrate. As the premenstrual distress averages about five days each month, it becomes apparent that there may be a huge economic loss when these relatively minor errors are summated. The disharmony in social relationships during the premenstrual period of suffering women is another factor of great importance. . . ."

Dr. Freed says that because relief of this condition is greatly beneficial from the standpoint of health, society and economics, more attention should be paid to it.

He explains that this distress can be relieved by a number of methods. Based on his studies he believes that "methyl testosterone administered once daily for from ten to seven days before the onset of menses is the surest and most convenient therapeutic agent for the relief of this condition."

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That Vincent's organisms are frequently found in smears taken from a normal mouth is now common knowledge, the two Naval officers explain. These organisms have been found in about 75 per cent of adult mouths examined, in spite of the absence of symptoms of the disease. At one time it was thought that the arsenicals used in the treatment of syphilis were effective

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(*Continued on page* 70)

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(Continued)

amine locally as well as intravenously. . . .

"The results have been so satisfactory in these cases that we have adopted this method as the routine treatment of all cases which demonstrated clinical Vincent's angina. . . ."

The authors explain in a footnote that since the 36 cases were reported, 12 additional ones have been treated by the same method without recurrences.

TESTS SHOW STRAINS OF BACTERIA VARY IN PENICILLIN SENSITIVITY

Findings With Staphylococcus Aureus And Meningococci May Explain Some Failures Of Treatment, Investigator Believes

Tests on various strains of Staphylococcus aureaus and meningococci by a method for assay of penicillin in body fluids, such as the blood, have shown a considerable variation in penicillin sensitivity of the various strains, Jean V. Cooke, M.D., St. Louis, reports in *The Journal of the American Medical Association* for February 24. This may explain why the new drug is more effective in treating some patients than in others with the same infection.

In the tests for penicillin sensitivity of Staphylococcus aureus, 30 strains were used, 2 of them stock strains and 28 others isolated from various human sources. There was a definite variation in sensitivity of the various strains. "The fact that some strains of Staphylococcus aureus are inhibited only by a concentration of penicillin five to ten times as great as required for other strains," Dr. Cooke says, "may be related to the lack of clinical response to penicillin therapy in certain infections by the more resistant strains." Striking differences also were found in the sensitivity of seven strains of meningococci grown from the spinal fluid of infants and children with acute meningitis.

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The ILLINOIS Medical Journal

VOL. 87 NO. 4

April, 1945

In This Issue

Rheumatic Fever as a Public Health Problem

Rheumatic Fever in Childhood

The Treatment of the Rheumatic Syndrome

---- and others

(See page 33 for complete Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY



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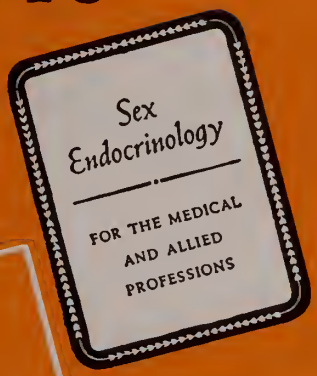
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RESEARCH IN THE SERVICE OF MEDICINE

WITH OUR COMPLIMENTS



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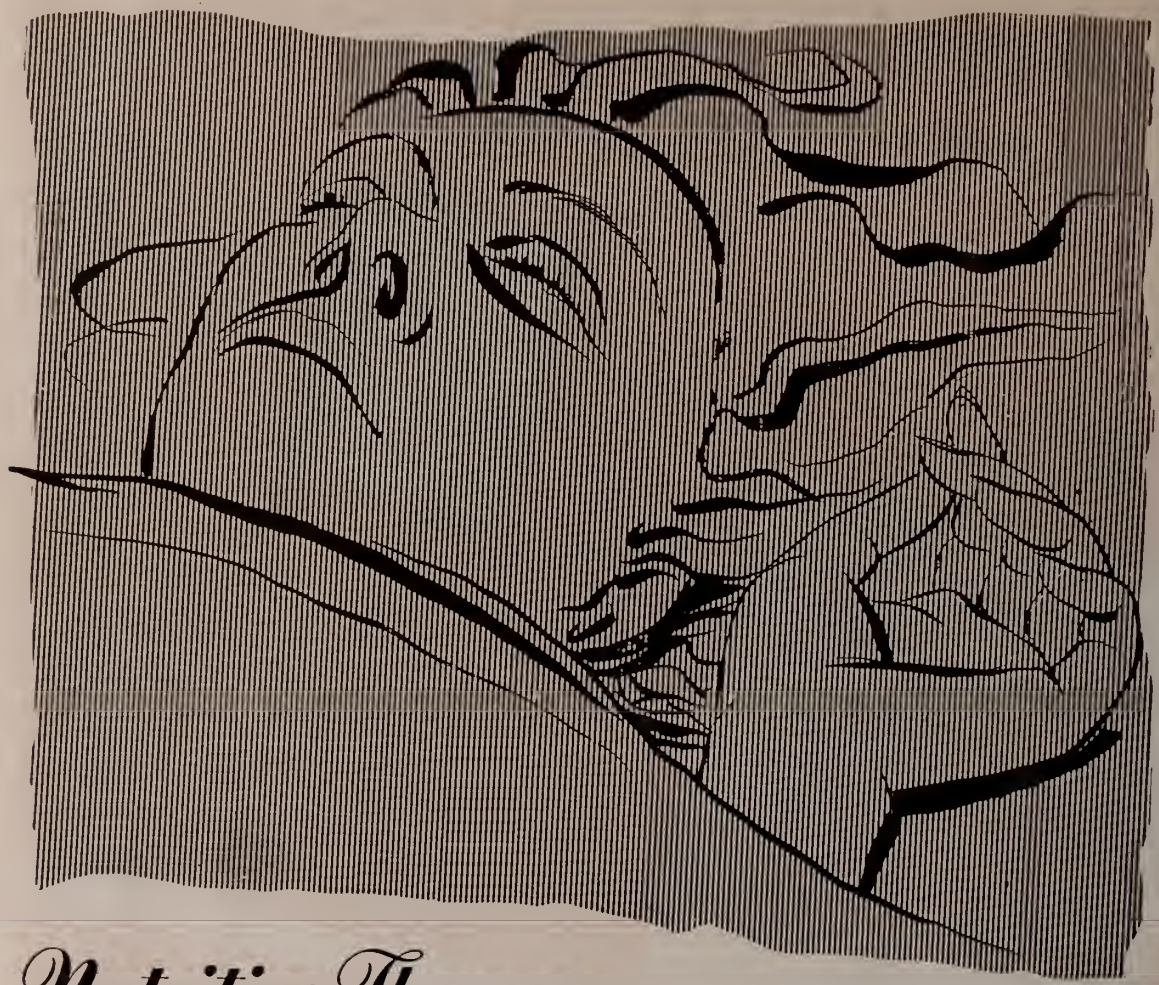
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When the nutritive status of any patient is severely impaired, supportive therapy centers about four essential measures[1].

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(1). Spies, Tom D.; Cogswell, Robert C., and Vilter, Carl: J.A.M.A. (Nov. 18) 1944. Spies, Tom D.: Med. Clin. N. Am. 27:273, 1943. (2). Jolliffe, Norman, and Smith, James J.: Med. Clin. N. Am. 27:567 (March) 1943.

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If, in the older fatalistic view of cardiovascular disease, the "Sword of Damocles" seemed to threaten momentary fall, recent studies[1,3,4] suggest that a more optimistic prognosis is often well justified. Indeed, "The rational use of cardiac drugs will help alleviate the disturbing symptoms of heart disease and will often rehabilitate the incapacitated individual so that he can live a reasonably normal and useful existence."[2] • Calpurate—a unique chemical combination of calcium theobromine and calcium gluconate—fulfills the clinical requirements of a highly efficacious cardiac drug. Striking results have been noted from its use—"in relieving symptoms of congestive failure, angina and dyspnea."[5] It increases cardiac output through myocardial stimulation . . . effects potent diuretic action . . . and is "remarkably free from gastric irritation"[5] (since it is almost insoluble in the stomach, yet readily absorbable in the intestine[3]).

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REFERENCES—1. Boyer, N. H.: J. A. M. A., 122:307, May, 1943. 2. Comeau, W. J.: J. Maine M. A., 32:10, 1941. 3. Gilbert, N. C.: Quart. Bull. Northwestern Univ., 16:179, Oct., 1942. 4. White, P. D., Bland, E. F., and Miskall, E. W.: J. A. M. A., 123:801, 1943. 5. Ziskin, T.: J. Lancet, 57:292, 1937.

Average human and cow's milk, in the ordinary diet of early infancy provide less than safe daily allowances* of thiamine and nicotinic acid and, in the case of human milk, of riboflavin as well.



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Explicitly designed to reinforce the diet of early infancy,

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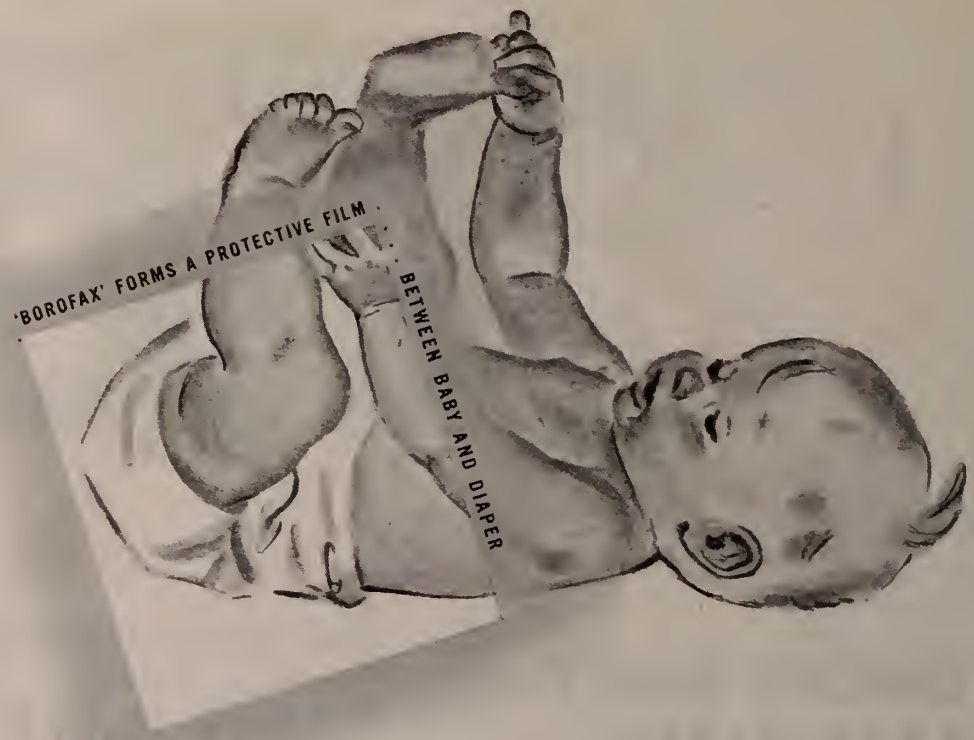
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*B. Zondek, *J.A.M.A.*, *118*:705, 1942; M. Berlind, *J. Clin. Endocrinol.*, *3*:457, 1943; R. S. Finkler, *Am. J. Obst. & Gynec.*, *48*:26, 1944

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—New and Nonofficial Remedies: Allergenic Preparations, Chicago, American Med. Assoc., 1944, p. 56.



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". . . . if the individual is depressed or anhedonic . . . you can change his attitude . . . by physical means just as surely as you can change his digestion by distressing thought . . . *In other words, drugs and physical therapeutics are just as much psychic agents as good advice and analysis* and must be used together with these latter agents of cure."

Myerson, A.—*Anhedonia*—
Am. J. Psychiat., July, 1922.

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SULFATE TABLETS

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together with liver concentrate (vitamin fraction), derived from 4 grams of fresh liver, and dried brewers' yeast.

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MAXIMUM patient cooperation in intestinal bulk therapy is assured by Mucilose, a highly purified hemicellulose which provides *greater bulk* from *smaller doses* at *lower cost*. Published data* show that Mucilose yields much more bulk than other well-known psyllium-base products. Doses are correspondingly smaller, and savings in cost to the patient average 65%.

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LUBRICATING BULK is provided for gentle stimulation of intestinal peristalsis because approximately 50 parts of water are absorbed to produce a colloidal gel.

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*Gray, H and Tainter, M L.; *Am J Digest Dis* 8:130, 1941.

TRADE MARK MUCILOSE—REG. U.S. PAT. OFF.

recent extensive investigation confirms contraceptive effectiveness of the active ingredient in Koromex Jelly

A most illuminating report based on extensive clinical and experimental data has recently been published by Eastman and Scott (Human Fertility, 9:33, (June) 1944.) These authors studied the safety and efficacy of phenylmercuric acetate which is the active constituent of Koromex Jelly.

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White's Otomide provides a new, more effective method of reaching and treating suppurative and non-suppurative infections of the middle ear and external auditory canal.

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Sulfanilamide	**5%**
Chlorobutanol (anhydrous)	**3%**
Glycerin (h.sp.gr.)	**q.s.**

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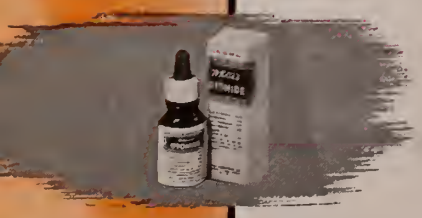
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*Gruber, C. M., Ellis, F. W., and Freedman, G., Pharmacol. & Exper. Therap. 81:254 (July) 1944

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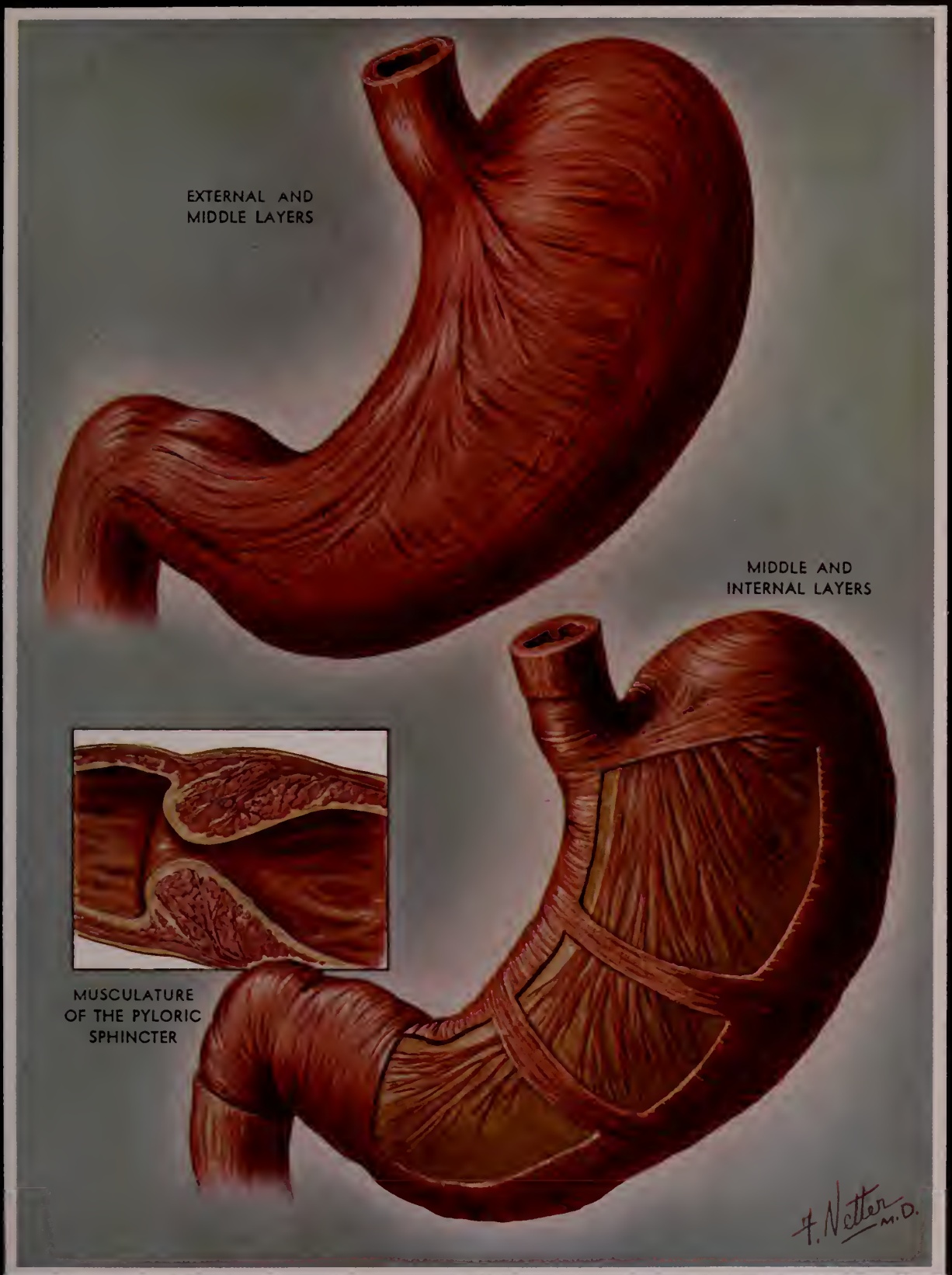
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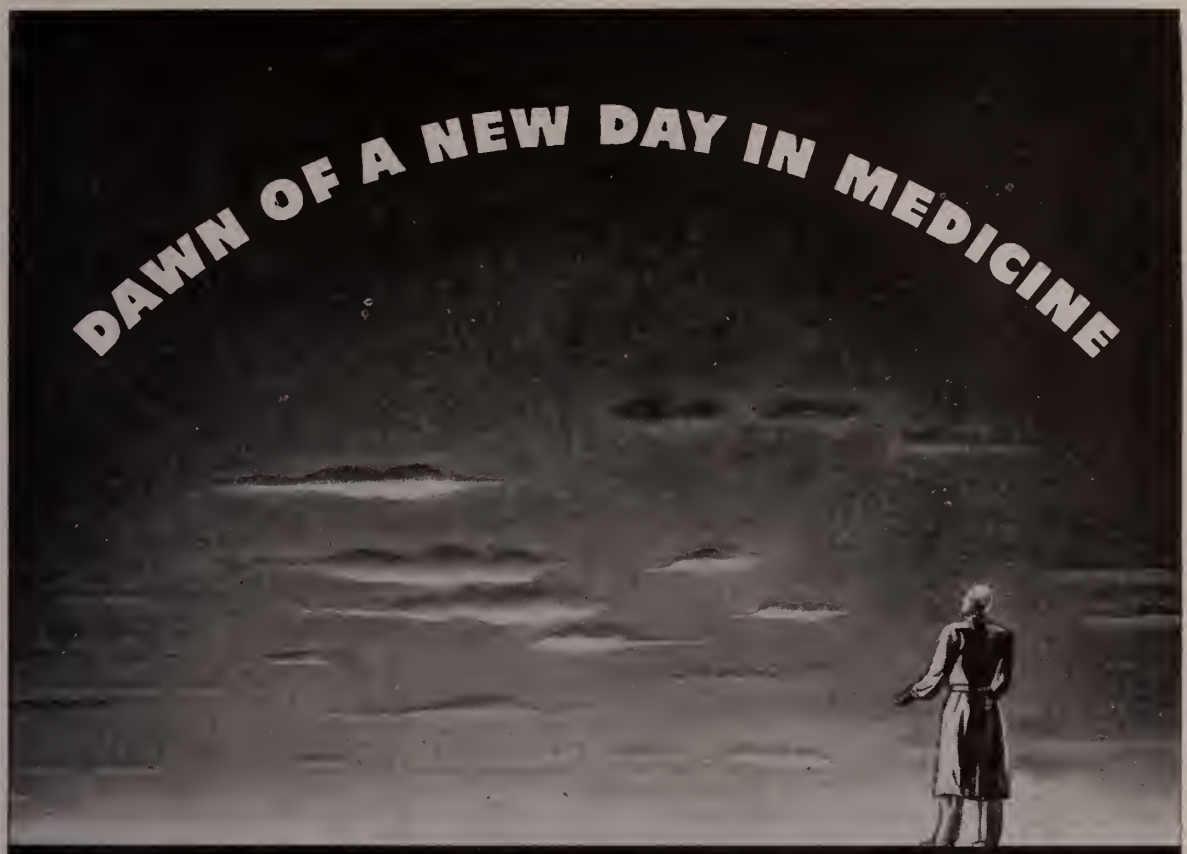
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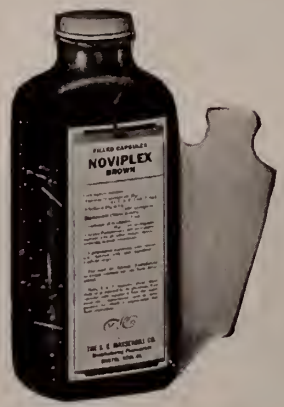
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Plasma is employed to combat shock which so often accompanies battle injuries. Various substitute fluids have been suggested from time to time, but human plasma is most satisfactory. Dried plasma has the advantages of completeness from the physiological standpoint, stability, ease of transportation in large quantities, and rapidity with which the solution can be prepared. Every package of blood plasma processed by Eli Lilly and Company is supplied to the Government at exact cost of production. Plasma prepared by this Company is not available for civilian needs. Eli Lilly and Company, Indianapolis 6, Indiana, U. S. A.

April, 1945

VOL. 87, NO. 4

The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

PLANS FOR ANNUAL MEETING IN MAY CANCELLED

At a meeting of the Council held on March 25th it was voted to cancel plans for the annual meeting of the Illinois State Medical Society scheduled to be held on May 15, 16, 17, 1945. Efforts will be made to hold the annual meeting during the month of August, and if this is not possible, to have a meeting of the House of Delegates during the late summer or early fall. Notices have been sent to all committees, section officers and to scientific and technical exhibitors giving this information.

When plans are made for the meeting later in the year, complete information will be published in the Illinois Medical Journal. Everyone designated to participate in the plans, programs, etc., will be notified promptly.

It is the desire of the Illinois State Medical Society to cooperate fully with the Government at all times. Our first objective is naturally the winning of the war. Committees of this Society are now working on post-war medical care plans, and announcements will be made later concerning progress.

PENICILLIN NOW AVAILABLE THROUGH COMMERCIAL CHANNELS

On March 15, 1945, penicillin became available through regular commercial channels, and it is no longer necessary to procure this valuable remedial agent through designated hospitals. For the past year it was made available through the Penicillin Distribution Unit in Chicago, and approximately 1,000 hospitals throughout the country were acting as distributors in their respective areas.

It was stated that 1,280,000 packages of penicillin were available through the commercial trade channels from March 15 through March 31; for the month of April 1,500,000 packages would be released and in all probability a similar amount each month thereafter.

The story of the increase in penicillin production during the past two years has been most interesting indeed. With a further increase in production so that it may be used not only for civilian needs but also in clinical research, it is quite probable that many additional indications for its use will be discovered.

Physicians throughout the country should first familiarize themselves with this product, its known indications and limitations and should use it in accordance with definitely established procedures so that the total amount made available for civilian practice can be utilized to the best advantage. As the supply of penicillin increases there will no doubt be more information released from time to time relative to newer uses for this valuable preparation. In the meantime it must be realized that penicillin will not cure all types of diseases and that it will require much time and additional study to evaluate properly its actual value in the treatment of disease.

A MINISTER'S OPINION

Rev. Cyril K. Richard, pastor of the Sauganash Community Church, Chicago, recently delivered a sermon on the subject, "Signs". In discussing a number of subjects during this presentation, he gave an interesting commentary on the Wagner-Murray-Dingell Bill which we have permission to publish as delivered by this Pastor. He said:

A portentous sign of dangerous present day trends is the Wagner-Murray-Dingell Bill, presented to the House of Representatives on June 3, 1943. Described by its authors as "A Unified National Social Insurance System", the bill contains ten provisions, one of which is specifically dangerous and portentous. I refer to the provision which would endow the Surgeon General of the Public Health Service with comprehensive power and authority over the nation's physicians and surgeons. If the bill is allowed to become law, the Surgeon General would have the power and be authorized (1) to hire doctors at fixed salaries to provide medical care and service under his direction, (2) to designate which doctors can be specialists, (3) to determine the number of individuals for whom any physician may provide service, and (4) to determine arbitrarily what hospitals and clinics may provide service for patients. In other words, medical care and hospitalization for all beneficiaries of the Social Insurance System would be under the the comprehensive power of the Surgeon General. The fact that the specific provision we are discussing is buried within an inclusive social security bill, is very much suggestive of a menacing intention on the part of its authors and proponents. The other provisions, as a whole, will undoubtedly make strong appeal to a large proportion of American people, approximately 60% of the total, including wage earners and white collar workers. I am convinced that this one provision which we have described could never stand alone. I repeat that its inclusion is portentous of implied motives and is a bold effort to apply a radical stroke of state control over a vital profession and is therefore a threat against the medical profession. If the bill is allowed to become law, doctors would then work for the government. with all the attendant political inefficiency, patronage and corruption

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with which citizens of Chicago are most familiar. With the profession of medicine under the control of politics, what a pork-barrel that would be. With politically controlled medicine, incentives to research and professional achievement would be killed, for even the physicians' methods and prescriptions would be at the mercy of his political superior — he would be relegated to the role of appeaser and "yes-man" to the ward boss. Not only would the physician be unable to give his best skill and services to the patient, the patient would be unable to choose his doctor, and would be forced to take one willing to be subservient to the politician.

If the Wagner-Murray-Dingell bill should eventually pass, it would be the first direct and most complete control over persons to be effected in the present trend in America toward totalitarianism and would be a long stride toward state medicine. Lest members of other vocations and profession be inclined to apathy over this threat to the doctors, we should realize that from enactment of this bill it would be but a short step to state and political control of other professions and other personal effort.

I am convinced that the general public is not fully aware of either the presence of this bill or its sinister implications for our American way of life. Only wide-spread publicity can keep this threat from becoming a reality. If fairly presented to the people, I am confident they will reject it in its present form. This belief is substantiated by a recent poll made by Opinion Research Corporation of New Jersey. According to the findings of this poll, as reported in the press, only 16% of the people approved state medicine. The majority insisted upon the right to choose their own doctor. The great majority said they felt their doctor takes a personal interest in them and that their doctor's charges have been satisfactory and reasonable. However, we realize that the beliefs of the rank and file have frequently not been recognize in legislation of late years. Nevertheless, we now propose that you take direct action on this bill by writing your Congressmen. There is certainly no health problem in the nation, as a whole, that would in any way warrant passing a bill containing such a provision as we have discussed with you.

It is most gratifying to members of the medical profession to know that many outside our own profession are interested in proposed legislation of this type which would completely change the present method of providing medical care in private practice and place its control in the hands of the federal government. Rev. Richard's plea for widespread publicity to maintain our American way of life is worthy of emulation. Every physician should, upon every possible opportunity, tell his friends about this and other bills of a similar nature which have been or may be introduced in the Congress during the present session.

During the postwar period there will be many changes in our way of life and in our activities, which may be curtailed for some time to come. Yet it is most probable that the majority of our people will desire to continue to exercise their own judgment in many things, and not be compelled to participate in many things not allied with the war effort or its immediate after-effects which could in any way be construed as bureaucratic control over our people.

Although the United States is one of the few remaining countries not having a federal medical care program in operation, we can point with pride to the type of medical education that is available, the statistics compiled pertaining to medical care of our casualties, the increasing longevity of our people, and the large proportion of medical developments which have been developed here during the last quarter century.

Rev. Richard is to be congratulated for presenting to his congregation one of the highly important subjects before our people today, and for the recommendations which he has made.

ASSOCIATION OF AMERICAN PHYSICIANS & SURGEONS

Many letters have been received by officers of the Illinois State Medical Society relative to the Association of American Physicians and Surgeons with headquarters at Gary, Indiana. Most of the inquirers have been interested in knowing what if any, action had been taken by this Society relative to the new Association.

The House of Delegates at the 1944 annual meeting went on record as approving whole heartedly the work of the A.M.A. Council on Medical Service and Public Relations and its Washington office established more than a year ago with Dr. Joseph Lawrence, formerly of Albany, N. Y., as Director. It was thought that the

American Medical Association and its constituent state medical societies could serve the needs of the medical profession better than any other group, and that full support should be given to the Council and its activities.

The Illinois State Medical Society has a Committee on Medical Service and Public Relations to work with the A.M.A. Council, and each county medical society in the state has been asked to form a similar committee. It is generally believed with this type of organization at the national, state and county levels, more can be accomplished than would be possible in any other way. The State Medical Society has not approved the Association of American Physicians and Surgeons nor has approval been given to any of the other somewhat similar organizations which have been developed during recent years in other parts of the country.

The Medical Annals of the District of Columbia, the official journal of the Medical Society of the District, published an interesting article in their February 1945 issue which we are reprinting. It gives some information on the proposals of the Association of American Physicians and Surgeons, and an interesting opinion expressed relative to these proposals.

IT MAY BE LEGAL BUT —

Last month your Observer had something to say about the Association of American Physicians and Surgeons. He tried to make it clear that he had no quarrel with any group which honestly sought to improve the status of the medical profession but deplored the Association's negative attitude. Having delivered himself of his views, he had no intention of commenting further on the Association. However, an address by Mr. Rollen Waterson before the Wayne County Medical Society on December 5, 1944, has come to his attention. In view of the statements made by Mr. Waterson, especially with reference to the Group Health case, he feels that he should add something to what he has already said.

Mr. Waterson, who is Executive Secretary of the Lake County Medical Society, Gary, Indiana, sponsors of the Association, told Detroit physicians that the first objective of the Association is "predicated upon the assumption that physicians lawfully may organize to refuse participation in schemes for the distribution of their services which they consider opposed to their best interests or to the interests of their patients." He referred to the indictment of the American Medical Association, the Medical Society of the District of Columbia and individual physicians, charging them with restraint of trade. He said there is no analogy between the actions of the two organizations convicted in this case and what the Association of American Physicians and Surgeons proposes. Competent legal counsel, he said, has advised the Association of its rights under the law.

This assurance has a familiar ring. Prior to the legal difficulties in which the A.M.A. and the Medical Society of the District of Columbia became involved, the ablest attorneys in the Nation's Capital assured the Society that it was within its legal rights in doing what it did. Despite this assurance, everyone knows the result.

Views expressed by the Society's legal counsel, to whom a copy of Mr. Waterson's talk was sent, are highly significant. He directed attention to Mr. Waterson's conclusions:

"First, that physicians may organize to refuse participation in schemes for the distribution of medical care such as the Group Health plan and plans organized under an Act of Congress or under the laws of any State.

"Second, having organized, physicians may refuse to associate professionally with those individuals or institutions that do participate in such schemes for rendering medical care.

"Third, it is the law that a voluntary association may discipline its members for violation of any reasonable rule it has adopted."

"These conclusions are reached," the counsel says, "on the theory that there is nothing in the decisions of the Court of Appeals or in the Supreme Court of the United States in the Group Health case that affects these rights. Frankly, I am forced to disagree with the conclusions reached.

"While the general conclusions of this article may be theoretically sound, it must be borne in mind that the gist of a violation of the Sherman Act involving either a combination or a conspiracy is essentially a matter of intent. In the Group Health case, I submit that the American

From "Medical Annals of the District of Columbia" February, 1945.

Medical Association and the Medical Society did no more than the acts contended for in Mr. Waterson's article. Yet, while conceding each individual act performed by the defendants might be lawful, the Department of Justice took the position that those acts were performed for the unlawful purpose of hindering Group Health in its business, the Washington hospitals in their business, members of Group Health and the business of physicians. The American Medical Association and the Medical Society were found guilty as charged, on the theory that they did the acts complained of for the purpose of hindering others.

"Thus, to me it is plain that the line between what is legal and illegal in a Sherman Act case, being essentially a question of intent, is tenuous, and if an intent to restrain or hinder could be imputed to acts of the character described in Mr. Waterson's article, then it might very well be that a successful prosecution might be maintained under a State Anti-trust Act if the State law should follow the principles laid down in the Group Health case or under the Sherman Act if any of the restraints occur in areas covered by Section 3 of the Act.

"Certainly other conclusions are contained in the article of Mr. Waterson with which I am not wholly in accord, but to discuss all of these differences would require a paper as long as that of Mr. Waterson, and it is my thought that you merely wanted my ultimate view of the conclusions reached by the article."

Hospitals in general are reluctant to adopt the modern methods of tuberculosis control because of the expense involved. A similar stand was taken by industry not many years ago in reference to industrial hygiene and medicine. Experience, however, has convinced industry, large and small, as Dr. Victor G. Heiser puts it that, "In war or in peace, no plant is too small to profit from a health program." Maxim Pollak, M.D., Hospitals, Sept. 1944.

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago 2, Illinois, enclosing label from a copy showing your old address. Changes received after the 1st of the month will not go into effect until the following month.

PREPAID MEDICAL SERVICE PLANNING

N. O. Gunderson, M.D.,
ROCKFORD

At the present time considerable attention is being devoted to Prepaid Medical Service Planning, which is reviewed herewith in terms of the patient, family physician, and legislator.

Certain principles of medical care as applied to distribution and cost are also evaluated in relation to our American Way of Life. Prepaid medical service planning appears to be necessary for the post-war era. What future course to follow in this all-absorbing phase of health preservation is left to the judgment of the reader.

SOME CONSIDERATIONS OF PREPAID MEDICAL SERVICE PLANNING

Introduction

This has been prepared as a condensed review of what appears to be a realistic approach to prepaid medical service planning.

The various views expressed may perhaps be of interest to patients, employers, physicians, and legislators, whether on a local, state, or federal basis.

Orientation

What kind of medical care is wanted?

It is self-evident that every American wants the *best medical service possible.*

Is this attainable?

America is the one country that has the *essential facilities* for offering the best medical service possible.

Why is this true?

Because American ingenuity and foresight has seen fit through voluntary and legislative means to support that type of medical practice, which has resulted in a system of medical care *unequaled in any other country in the world.*

Is this a priceless heritage?

Experience has shown, and statistics verify the contention that (1) life expectancy, (2) freedom from illness, (3) avoidance of premature death in this country, is an American heritage *which perhaps needs to be zealously safeguarded.*

Is this true in other countries?

Investigation and study apparently reveal that these same conditions *do not prevail in other countries.*

Medical Leadership

What is the reason for this American leadership?

America has been willing to accept the premise that all features of medical service, in any method of medical practice, of necessity needs to be under the immediate guidance of the medical profession.

Is this basic?

Aparently, because no other individual, or groups of individuals, are educationally equipped and qualified to exercise impartially this guidance and supervision.

Patient Cooperation

Is this true in terms of patients seeking medical care?
Just a little thought suggests the wisdom of not permitting any third person, or organization, *to come between the patient and his physician* in any medical relation.

What about responsibility?
In all fairness, it perhaps can be conceded that responsibility for the character of medical service can be borne by the profession with "advantage to all concerned."

Do patients desire to choose their own doctor?
Patients, in order to get well, need to be granted full latitude in choosing a legally qualified doctor of medicine, who will serve them among all those qualified to practice, and who is willing to give such service.

How do patients want medical service administered?
The method of giving medical service needs to be a permanent *confidential* matter between the patient and a "family physician" if that patient is to be satisfied, protected, and given hope for early recovery.

Is this essential?
In order to be successful, it is highly essential that this relation be the fundamental and dominating feature of any medical service plan.

The Cost of Medical Service

What about the cost of medical service?
In whatever way the cost of medical service is distributed, it of necessity needs to be paid for by the patient *in accordance with his income status,* and in a manner that is mutually satisfactory between the patient and family physician.

What about "cash benefits"?
Medical service need not, and must have no connection, with any cash benefits.

Are medical costs excessive in America?
To be realistic on this point, *the answer is yes,* similar to other costs in business, manufacturing, building a home, and educating children.

What can be done about it?
As in other fields, plans and preparations are being formulated to meet these costs on a prepayment basis.

How can this be done?
Through *prepaid medical service planning,* as in other fields of post-war planning.

Is this being done?
Yes, the American public at long last has come to realize that prepayment plans for medical service are as basic as any other planning to meet unanticipated emergencies.

Can full coverage be obtained?
Like any other assurance against the unexpected, insurance coverage against unexpected medical emergencies can, because of actuarial experience, be obtained on a *partial coverage basis only.*

Regarding Medical Institutions

What about the operation of medical institutions?
To be successful, which is the desire of the American public, it is highly essential that the medical phases *of all institutions* involved in medical service be under professional medical guidance and supervision.

Does this include all phases of hospitalization?
It should be clearly understood that *hospital service* and *medical service* are two distinct entities, and each require separate consideration.

What are "medical service" institutions?
Medical service institutions, whether they function under the name of a hospital or some other name, are but expansions of the equipment of the "family physician."

What is the basis for this contention?
The family physician is the only one whom *the laws of all nations* recognize as competent to use these institutions in the furnishing of adequate medical service.

Evaluation of These Institutions

Who can determine the adequacy of such institutions?
The medical profession, because of its unique, ultra scientific basic training in human illness, *is particularly fitted* to determine the adequacy and character of medical service in institutions.

Upon what does the value of these institutions depend?
The value of all medical institutions depends primarily on their operation according to *accepted medical standards.*

What About Doctors?

What about the "all inclusiveness" of medical service?
Medical service in any and all forms, of necessity, need to include within its scope, *all legally qualified doctors of medicine* of the locality covered by its operation, who wish to give service *under accepted standards* of operation. This is basic as in every other type of business.

What medical service restrictions are undesirable to American patients?
There should be no restrictions on (1) *treatment,* or (2) *prescribing,* not formulated and guided *by the medical profession.*

Why is this apparently true?
The quickest way to afford the American people with *inferior medical service,* so prevalent in all too many other countries, is to allow a third person, whether he represents an individual, corporate body, organization, or civic authority, to place restrictions on (1) medical treatment, or (2) prescribing, which today can gain headway unless the *stop signal of "caution"* is observed.

Is there proof of this contention?
Inability to carry out an accepted method of treatment, or failure to obtain an accepted medicine, vaccine, or serum for patients, because of lay adopted rules and regulations promulgated *without medical guidance* seriously handicaps a patient in getting well.

Is this very prevalent at the present time?
Fortunately American ingenuity has seen fit to leave most of these problems up to the present time to the judgment of the family physician.

Medical Service to the Needy?

What about medical service to the needy?

Medical service systems for the relief of low income classes needs to be limited strictly to those below the "comfort level" standard of incomes.

In what way does this apply?

Those able to pay should not share medical service of institutions designed primarily for those unable to pay.

Should the public assist in this regard?

Those unable to pay must of necessity have public consideration, as is the custom in this country today.

What about the low income or "white collar" group?

This is where the individual, employer and insurance carrier can cooperate in solving a "common welfare problem."

Why has this not been done before?

Like all other emergency expenses, we all have not seen the wisdom of planning for what is called a "rainy day."

Should this be a matter of compulsion?

This is the problem for consideration. Its solution *rests with the people,* not the medical profession. The doctors can be relied upon for sound advice and counsel in this matter.

Organizing Plans For Prepaid Medical Service?

Is it a simple task to organize prepaid medical care plans?

It is not an easy, simple task to organize prepayment plans for medical care that (1) will be *actuarially sound,* (2) will not divert an inordinate amount of the income to *administration,* (3) *will gain and hold the confidence* of the American public, (4) secure the *wholehearted cooperation of all physicians,* and thereby permit a wide freedom of choice, (5) contain within itself the necessary professional machinery which will assure all patients that *high standards of medical service* will be maintained.

Various Plans

Is this the reason for the many different prepayment plans?

The very fact that there are numerous different prepayment plans for medical service in the United States is a glowing tribute to the individual initiative of the American public.

What else does this indicate?

That the various people from the various diversified sections of the country *desire and want to preserve* local control and local administration of home affairs.

Government Supervision

Can this become a state or federal function?

Medical service, like any other professional or business function, can become the province of a state or federal unit.

Is this what the American Public wants?

This is the question now confronting the thousands of existing and future patients in need of medical care in this country, who perhaps should be made aware of the threat to our American system of medical practice.

Who Will Decide?

What is the answer?

The answer rests solely and only with the desires and wishes of patients themselves, and not with the family physician.

Why is this true?

Because the family physician cannot legislate — he is only the servant of his patients. He can only advise.

What will the physician do in this matter?

He will abide by the wishes and desires of the patient, who must choose what type of medical service distribution is wanted in this country.

What is the basis of this contention?

The family physician, through training, obligation to his patients, and attention to the arduous task of rendering adequate medical service to the sick is too busy to undertake the task of deciding what type of medical service distribution the American public wants.

Does he know what medical service is wanted?

Yes, he is overly conscious of the fact that all patients desire and hope for the best medical service possible.

Which System Is The Best?

Is Medical Service under government supervision the best?

This is what the American public has to decide — not the family physician — because he has no control over the matter. This is an important point, that perhaps should not be forgotten.

Which would be the best for the doctor?

Statistics show that the family physician, by and large, takes less interest in legislative matters than any other professional man. His aim is to serve humanity according to the medical facilities placed in his hands for service.

Why is this?

Because the very nature of his professional calling requires an approach, understanding, and consideration of people not found in any other profession; *people when sick require a highly specialized method of approach.*

Is the practice of medicine a public matter?

Ask any patient or doctor and it will soon be learned that the practice of medicine needs to be one of the most confidential matters between the one being treated and the physician of the patient's own choice.

Is this the way the public wants it?

This is a matter for the American public to decide.

Governmental Control

Can governmental agencies carry on this function successfully?

No one really knows at the present time. There are many advocates of the present system and some favor the government entering this important phase of American existence.

What about the governmental system in other countries?

Nearly every foreign country has one system or

another of governmentally supervised medical service.

Are they successful?

This depends upon (1) what is considered "successful," (2) from what source the information is obtained, (3) what constitutes adequate medical service. The sickness, premature death and baby death rates in other countries are, however, quite different from the *prevailing low rates* in this country.

Are there many advocates of this system?

From an economic standpoint, all Americans are by nature endowed with an innate desire to have any agency, no matter what its origin, assure adequate medical service on a prepayment plan basis, whether sponsored by voluntary or official agencies, providing the medical service rendered is of *high quality and administered in a kindly manner.* These latter conditions are of supreme importance.

The matter then appears to be very simple?

With one exception perhaps, each patient, no matter his financial status, wants the best medical care possible when sick or near the "door of death."

Is this basic?

We will let you, Mr. Reader, be the judge.

Voluntary Prepayment Plans

How do voluntary prepayment plans operate?

There are many voluntary prepayment plans for medical service in this country at the present time.

How many kinds are there?

In general, it perhaps may be said that there are (1) commercial, (2) non-profit, (3) employer or organization subsidized plans, of prepaid medical service in this country.

How many people today are covered with these plans?

It has been reported that over twenty-three million people are covered with these plans.

Have they been used very long in this country?

The *commercial or insurance plans* have been available for years; the *non-profit plans* are of more recent origin; and the *employer subsidized plans* have been in existence for a number of years.

Do they cover all types of medical service?

No two of these plans are alike: (1) some are limited in their coverage, (2) a few provide full coverage, and (3) others are very selective as to benefits.

Why is this?

Because the actuarial experience involved in sickness coverage through the "group plan" method has not been fully worked out as yet. It is well, perhaps, to remember that prepaid plans for medical service, of necessity, need to be on a *partial basis only,* like all other protection against fire, auto collision, and floods, if the premium cost is to be kept at a low figure.

What is meant by "employer subsidized plans?"

Many employers are uniting with employees to solve a "mutual welfare problem" by paying: (1) part, (2) half, (3) in some cases the entire premium cost of these plans.

Is this a good policy?

Time will tell. So far it appears that this procedure is beneficial in solving a *mutual problem.*

One Voluntary Plan

Can one of the voluntary plans be described?

In one county in Illinois, the local medical profession has formulated a plan which for illustration will be described.

What is the cost of this plan?

The cost of this voluntary prepayment plan for medical services only is as follows:

$1.00 per month for a single man, or $12.00 a year
$1.25 per month for a single woman, or $15.00 a year
$3.00 per month for a man and wife and all children between 3 months and 18 years of age, or $36.00 a year. It is also of interest that these amounts are reduced by 10 per cent when paid on an annual basis, which reduces the above amounts to $10.80, $13.50 and $32.40 respectively.

Can anyone take out this insurance?

For actuarial reasons, it is sold on the basis of not less than ten policyholders per group. (Any one desiring to carry Accident and Health indemnity coverage, however, at a minimum of $1.00 extra per month, may obtain this plan on an individual basis.)

Why is this?

There is no magical way to pay for medical service coverage; the well must help pay for the sick; there is no other way to pay the bill.

Coverage

What medical services are included in this plan?

A fee of $2.00 per call in the event of any disabling illness; (1) on the part of a single man or woman up to 65 years of age, (2) on the part of husband or wife up to 65 years of age, (3) any dependent between 3 months and 18 years; (4) the fee is paid regardless of whether the call is made in a physician's office, in a hospital, or in a patient's home, (5) the first two calls per person are deducted which must be paid by the patient, (6) in the event of a surgical disability payment begins *with the first call.*

Does this mean that disabling illnesses are included?

Yes, disabling illnesses, with some few exceptions are included in the plan, after the first two visits to or by the family physician as previously stated.

Why are the first two calls not covered?

This no doubt can be done, but the premium cost, of necessity, would have to be raised. Therefore the first two doctor calls for the present are not included. The plan aims to provide an easy prepayment method for partially meeting the expense of *prolonged illnesses.*

What diseases and accidents are not covered?

Venereal diseases, mental diseases, and accidents or sicknesses covered by "workman's compensation laws" are not covered.

Are physical examinations and diagnostic procedures included?

These procedures are not covered at present; they may be at a later date.

Are surgical operations and maternity covered in the plan?

Yes, these conditions are covered, and although the

maternity fee is only $30.00 for the present, this may be raised at a later date.

What about the total amount of insurance paid?

(1) The total amount paid for any one illness for a single person or any one member of a family is up to $250 in any one year, (2) the total for all children is up to $500 in any one year, (3) the total for husband and wife is up to $500 in any one year, (4) in lieu of the $2.00 per call, the patient may elect to take a flat surgical fee as enumerated in the plan.

To whom is this money paid?

To the patient, which aids materially in meeting prolonged emergency medical costs. The patient pays the doctor. It is not intended that this plan shall cover the entire bill of the doctor.

Does the plan cover hospital expenses?

Not in Winnebago County, because this is covered by a "Blue Cross" *prepaid hospitalization plan.*

Combined Medical Service and Hospitalization Cost

In simple terms, then, what is the total medical and hospitalization cost?

(1) For a single man $1.00 plus hospitalization at 65c, or $1.65 times 12 months equals $19.80 per year, (2) for a single woman, $1.25 plus hospitalization at 65c, or $1.90 times 12 months equals $22.80 per year, (3) for a husband, wife and children $3.00 plus hospitalization at $1.30, or $4.30 times 12 months equals $51.60 per year per family. See previous statement on the 10 per cent reduction when the medical care phase of this plan is paid annually, which reduces the above amounts to $18.60, $21.30 and $47.00 respectively.

Are the two plans described sold together?

No, the two plans are sold separately because they are handled by two different organizations. At a later date the Northern Illinois "Blue Cross" hospitalization organization may sell both of these plans *on a group basis.* This, however, requires a change in the present state law, which no doubt will be done this year.

Are these premiums excessive?

Under the contemplated government compulsory plan, the premium is to be 3 per cent on all incomes up to $3,000; which, if a person earns $2,000, would equal $60.00 per year, so it can be seen that the plans described are much less as far as costs are concerned.

How can employers assist in this program?

In some communities, businessmen and industrialists have deemed it advisable to cooperate with employees by partially subsidizing the premium cost of this *mutual welfare problem.*

In Retrospect

1. An attempt has been made to evaluate prepaid medical service planning in the United States.

2. Due consideration has been given to the voluntary and compulsory saving aspects of this all-absorbing means of meeting emergency medical care expense.

3. That planning can assume either of these two courses is self-evident from data presented.

4. One plan recently inaugurated in Winnebago County, Illinois, covering both surgical and medical service, together with detail costs is presented outlining a more economical voluntary plan, which includes private insurance policies, and which permits anyone to choose his own physician.

5. This plan appears to be more satisfactory than the anticipated government plan, in which 3 percent of all incomes up to $3,000 per year will be imposed and set aside to meet unanticipated surgical and sickness emergencies.

6. Many people prefer to have their own choice of physician.

7. Which of these two systems is the most desirable is left to the judgment of the reader.

REPORTS TRANSMISSION OF PENICILLIN FROM MOTHER TO UNBORN CHILD

"Transmission of penicillin from mother to unborn child through the placental barrier is reported by H. J. Greene and G. L. Hobby of King's County Hospital, Brooklyn," *The Journal of the American Medical Association* for March 17 announces. "Four normal patients were tested while in active labor, delivery being expected within two hours. From 20,000 to 100,000 Oxford units of penicillin were injected intravenously into each patient. Samples of maternal blood were taken at the time of delivery, with a sample of placental cord blood as soon as the baby was separated from the placenta. The serum from each blood sample was titrated for penicillin, hemolytic streptococci being used as the test organism. At the time of delivery (thirty minutes to two hours after injection) the amount of penicillin in the maternal blood varied from 0.01 to 0.19 Oxford unit per cubic centimeter, with an average of 0.084 Oxford unit. The average titer of the cord blood was 0.034 Oxford unit, or 40 per cent of that in the maternal circulation. Apparently, then, penicillin passes through the human placenta in sufficient amounts to raise the penicillin titer of the fetal blood stream well above the bacteriostatic level. Practical applications of the implied antepartum penicillin therapy have not yet been suggested."

State Department of Public Health

VENEREAL DISEASE CONTROL

Regulations governing the administration of venereal disease control were promulgated at the time of the creation of the Division of Social Hygiene now the Division of Venereal Disease Control in the year 1917-18 after conferences participated in by public health officials and representatives of the State Medical Society. It was agreed that the cooperation of the medical profession was essential to the success of venereal disease control and that such cooperation could only be secured by conducting a program which would merit the approval of the practicing physician.

Regulations governing venereal disease control require that all persons having a venereal disease in an infectious stage must submit to treatment as a public health measure. It became necessary, therefore, to make treatment available for patients unable to pay a physician. Treatment supplied by township supervisors and overseers of the poor had never been satisfactory, consequently, the clinic was considered a necessity in communities having a sufficient number of indigents to justify the cost of operation.

It was agreed that clinics would be established only with the approval of the local or county medical society and operated by clinicians selected by the society with administrative supervision by the Division of Venereal Disease Control, utilizing the services of the District or County Health Officer when expedient. This has been and is now the policy regarding the venereal disease clinic. The Department of Public Health does not regard this as administering therapy.

Reports of cases and the treatment which patients received were of prime importance. It is a well known fact that many physicians dislike making reports and since it is impracticable to pay a fee for reports, it was agreed that free laboratory service and free drugs for the treatment of all venereal cases would in some measure compensate them for the time and trouble expended and at the same time tend toward uniformity in treatment. Drugs are not supplied to patients nor to lay persons.

In communities where clinics are not accessible and the supervisor or overseer of the poor does not provide treatment for infectious or potentially infectious cases, including pregnancy and recently discharged military personnel, the Department of Public Health pays the physician for treatment.

In the past few years several forms of rapid intensive treatment of early infectious syphilis, whereby the patient is quickly rendered noninfectious, have been developed. Such treatment is not without danger and requires hospitalization but when administered by an experienced physician solves a long existing problem of how to protect the public from an habitual disease spreader — the prostitute — found to be acutely infectious when examined after arrest. These persons cannot be depended on to secure private treatment and must be quarantined. Through a cooperative arrangement with the Department of Public Welfare, the Department of Public Health has designated five State hospitals as quarantine areas for female patients, to which such infectious patients are sent by local health officers, clinics and physicians who do not want the responsibility of protecting the public from

(*Continued on page* 176)

Correspondence

CHICAGO CANCER COMMITTEE ANNOUNCES OFFICERS

Dr. George E. Wakerlin, professor of Physiology and Head of the Department, University of Illinois College of Medicine, and Assistant Dean, Rush-Presbyterian Division, has been elected chairman of the Chicago Cancer Committee, succeeding Dr. Ludvig Hektoen, who becomes honorary chairman. Other directors are: Dr. Alexander Brunschwig, Professor of Surgery and Roentgenology, University of Chicago School of Medicine; Dr. Bowman C. Crowell, Associate Director, American College of Surgeons; Dr. Israel Davidsohn, Pathologist, Mount Sinai Hospital; Mrs. Arthur I. Edison, Commander, Illinois Division, Field Army of the American Cancer Society; Dr. Hamilton R. Fishback, Chairman, Tumor Clinic, Norwegian American Hospital; Laura G. Jackson, Director of Public Relations, American College of Surgeons; Leo M. Lyons, Chairman, Cancer Committee, Administrators' Section, Chicago Hospital Council, and Director of St. Luke's Hospital; Dr. Frederick W. Merrifield, Assistant Professor of Surgery, Northwestern University Medical School; Dr. William F. Petersen, Chairman, Board of Governors, Institute of Medicine of Chicago; Dr. Herbert E. Schmitz, Clinical Professor and Head, Department of Obstetrics and Gynecology, Loyola University School of Medicine; Dr. James P. Simonds, Professor of Pathology, Northwestern University Medical School; Dr. Danely P. Slaughter, Assistant Professor of Surgery and Director of the Tumor Clinic, University of Illinois College of Medicine; Mrs. Ralph W. Webster, Chairman, Cancer Research Committee, Chicago Woman's Club; Dr. John A. Wolfer, Chairman, Cancer Committee, Illinois State Medical Society, and Associate Professor of Surgery and Director of Tumor Clinic, Northwestern University Medical School. Alexander Ropchan, Director of Health Division, Council of Social Agencies of Chicago, is secretary of the Committee.

Miss Josephine Bessems, formerly educational director of the Dental Hygiene Institute of Chicago, and previously director of public relations at Children's Memorial Hospital and Henrotin Hospital, has been appointed executive secretary of the Chicago Cancer Committee. The Committee will maintain offices at 139 North Clark Street, Chicago, which will be shared by the Field Army of the American Cancer Society, of which Mrs. Arthur I. Edison is Illinois Commander. A central cancer information and referral center will be established by the Chicago Cancer Committee and the Field Army at the Clark Street address.

EMPHASIZE WHOOPING COUGH PREVENTION ON CHILD HEALTH DAY

For the past several years proclamations have been issue by both the President and the Governor designating May Day as Child Health Day.

The theme selected by the Illinois Department of Public Health for Child Health Day this year will be the immunization of pre-school and school children against diphtheria, smallpox, and whooping cough, with special emphasis on the latter disease.

Because of its high fatality rate in children under the age of two, whooping cough is still a major communicable disease hazard. The high

birth rates of the last several years have increased the number of children in the younger age-groups, and current case reports indicate that the incidence of whooping cough is rising rapidly. Therefore, as many children as possible should immediately be protected against this disease.

Considerable publicity will be given to the desirability of being immunized against whooping cough, and no doubt many of your patients will request this procedure. In order that you may be prepared for these requests, a supply of whooping cough vaccine is available.

The success of our efforts to prevent whooping cough and its complications will depend in a large measure on your support and co-operation.

Sincerely yours,
Roland R. Cross, M.D.
Director of Public Health

TUBERCULOSIS FORUM ON MAY 2

A community forum on tuberculosis will be sponsored by the Committee on Tuberculous Veterans of The Tuberculosis Institute of Chicago and Cook County at the Playhouse of the Jewish People's Institute, 3500 West Douglas Boulevard, Wednesday, May 2, at 8:00 P.M.

On the program, to be directed by Homer J. Buckley, President of The Tuberculosis Institute, will be talks by tuberculosis experts and social service workers, as well as the reenactment by members of the Chicago Junior League of a dramatic skit entitled "That Men May Live," which was broadcast over WBBM.

A series of exhibits and motion pictures will be shown beginning April 23 at the Jewish People's Institute in connection with the forum. Twenty agencies interested in the problem are lending their cooperation in this part of the project.

The Committee on Tuberculous Veterans was formed by The Tuberculosis Institute to meet a problem which is a growing threat to the health of the nation. Veterans of World War II are returning home in ever increasing numbers with tuberculosis. These veterans are placed in hospitals, called Veterans' Facilities, where they receive treatment without cost. After they are in the hospitals for a while, however, they begin to feel improved and are anxious to return to their homes before their cases are actually under control.

The purpose of the May forum will be to enlighten the general public on tuberculosis and to help prepare persons who may have a relative or friend returning from the service with tuberculosis. The disease is a social problem and its ultimate control and eradication depend upon education and cooperation.

VENEREAL DISEASE CONTROL
(Continued)

this type of patient. Suitable cases are treated in private hospitals by salaried clinicians or by physicians who receive a fee from the Division of Veneral Disease Control.

It is now as in the beginning of venereal disease control, the aim of the Department to conduct a program for the protection of the public health which will merit the approval of the medical profession as expressed by the Illinois Medical Society and with that aim in view, discussion and constructive criticism are always welcome.

PENICILLIN FOR INFECTION OF THE BLOOD

The recovery of a patient from Staphylococcus albus septicemia, usually fatal in 90 per cent of the cases, has been effected with prolonged penicillin treatment, Robert H. Herbst, M.D., and James W. Merricks, M.D., Chicago, report in *The Journal of the American Medical Association* for March 3.

In the treatment of their patient who had developed septicemia after a kidney operation, the repeated administration of penicillin proved effective after sulfadiazine had failed.

Medicine's Role in the War Effort

ILLINOIS DOCTORS WITH 33RD DIVISION IN THE PHILIPPINES

With The 33rd Division In The Philippines: Of all miracles of modern science the strides made by the medical profession in the care of the wounded soldiers outstrips them all.

This has been proven time and time again in the 33rd Infantry Division now fighting the Japs in the Philippines where the best medical care in the world is provided for the world's best soldiers.

Since the 33rd division has been in combat in the Southwest Pacific statistics show that a minimum of 90 per cent of soldiers wounded have been saved. These figures, borne out by other divisions in this theatre, represent the highest percentage of human salvage attained in any war.

Forward and behind the front lines can be found the battalion surgeons and their assistants in aid stations giving plasma, dressing wounds, splinting fractures and in general preparing the wounded soldiers for movement to the rear. All this they do under direct fire of the enemy with no opportunity to fight back. Each regiment has its medical detachment of which battalion aid stations (three in each regiment) are a part. Major Robert Ash of Quincy, Ill., Major Robert A. Allen, son of Dr. W. G. Allen, 750 Hinman, Evanston, Ill., and Major Karl H. Beck who resides at 11846 Willshire, Detroit, Mich., as regimental surgeons are responsible for the units under their control.

The 108th Medical Battalion, ably commanded by Lieut. Col. Durand Smith, 50 Washington St., Chicago, Ill., well known proctologist and surgeon, and formerly of Ottawa and Plano, Ill., has the responsibility of removing the wounded and sick from the regimental and battalion aid stations through its collecting companies to the Clearing Station.

At the clearing station, commanded by Major John L. Savage, 610 Buell Ave., Joliet, Ill., former chief surgical resident at Evanston, Ill., hospital the casualties are sorted, those who can be adequately treated there being retained and those requiring extensive treatment being sent on to the field and station hospitals.

The entire medical service of the 33rd Division is supervised by the Division Surgeon, Lt. Col. Timothy F. Mullen, prominent Seneca, Ill., surgeon.

It is not only the Japs that the soldiers of the 33rd must fight in the South Pacific. There is the steaming jungle and its fever, malaria and poisonous insects, the climate with its heat and rain, conditions under which no American soldier has been called upon to fight. But for each of these problems the medics have the skill and equipment to solve.

☆ ☆

AIR EVACUATION BY THE AAF

An estimated 700,000 sick and wounded patients of the American and Allied forces have been transported by the Army Air Forces in all theaters of operations since air evacuation became a military necessity in 1942, it was announced by Major Gen. David N. W. Grant, the Air Surgeon. More than 525,000, or 75 per cent, of this total were transported in 1944, with the Ninth and Twelfth Air Forces carrying the larger part of the increased traffic as the result of the offensive in western Europe.

Approximately 57 per cent of the 1944 total has been Army Ground Forces and Army Service Forces personnel, 28 per cent British and other Allies, 5 per cent Navy and Marines, 7 per cent Army Air Forces and 3 per cent prisoners of war and civilians. Thus all arms and services have benefited both in health and in morale by the Air Surgeon's recommendation in 1942 that unarmed cargo airplanes be equipped with removable litter supports and be staffed by flight nurses and enlisted technicians to provide a method for the quick, safe and comfortable evacuation of casualties. The medical risk involved may be observed from the extremely low death rate in flight of 7 per hundred thousand patient trips. This record has been achieved despite the large number of critically wounded evacuated from Burma, France, Italy and the Central Pacific.

The great majority of the total patients have been flown from forward areas to base hospitals in theaters of operations, where Troop Carrier Command aircraft often have been the only practical means for safe and rapid evacuation of casualties on a mass scale. At

the same time the number of patients evacuated by the Air Transport Command from the theaters into the United States increased nearly 1,000 per cent. The 1943 total was approximately 3,000 compared to an estimated 30,000 for 1944. ATC air evacuation from ports of debarkation to army general hospitals in the interior increased in similar proportions after the introduction of this method of relieving debarkation hospitals and hospital trains early in 1944.

The first known plan to transport patients by airplane was proposed by Capt. George H. R. Gosman, M. C., Army Medical Corps, and Lieut. A. L. Rhoades, Coast Artillery Corps, in 1910, after they had built an airplane at Fort Barrancas, Fla. Credit for the air evacuation of the first patient in the United States probably belongs, however, to Major Nelson E. Driver, Medical Corps, and Capt. William C. Ocker, Air Service, who in 1918 converted a JN-4 airplane into an airplane ambulance at Gerstner Field, Lake Charles, La.

While light airplanes were used extensively for the transportation of the sick and injured prior to World War II, the first mass air evacuation in American military transport airplanes probably occurred in Java and Burma in March 1942. In Burma, ten C-47s of the Army Air Forces evacuated 1,900 sick and wounded soldiers and civilians from Myitkyina to Dinjan in one ten day period of April 1942. Twenty-four litters were roped in tiers in each airplane, but the greatest number evacuated in any one airplane, counting the ambulatory, was 74.

On the basis of recommendations made in 1940 by the chief of the Medical Division, Office, Chief of the Air Corps (now the Air Surgeon, Hq, AAF), the War Department authorized the Medical Air Ambulance Squadron table of organization on Nov. 19, 1941. The medical personnel, including flight surgeons, flight nurses and enlisted technicians, were activated for the first air ambulance unit at Fort Benning, Georgia, in May 1942. Owing to the shortage of airplanes and the pressing need for transport airplanes capable of mass patient movement, the Air Surgeon then recommended that troop and cargo airplanes be utilized on return trips from the front for the secondary mission of casualty evacuation, thus abandoning the concept of a single purpose air ambulance. In October 1942 the airplane ambulance unit was moved from Fort Benning to Bowman Field, Kentucky, and directed to train medical air evacuation transport squadrons for the care of patients in flight. The training group was subsequently designated as the AAF School of Air Evacuation.

Meanwhile mass air evacuation had become a military necessity in the New Guinea and Solomon Island counter-offensives beginning in August 1942. Flight surgeons were directed to improvise air evacuation service from available medical personnel in tactical units, and this was done with great success. Air evacuation in New Guinea was carried out by the Fifth Air Force and in the Solomons by the South Pacific Combat Air Transport Command comprised of Navy, Marine and Thirteenth Air Force units.

The first two medical air evacuation transport squadrons were activated at Bowman Field in December 1942 and entered service overseas in February 1943, one with the Thirteenth Air Force and the other with the Twelfth Air Force in North Africa. Since that time the AAF School of Air Evacuation, which became the Air Evacuation Section of the AAF School of Aviation Medicine at Randolph Field, Texas, in October 1944, has trained thirty-one squadrons. The number of flight nurses trained totals approximately 1,220, including several hundred who were not placed on, or are no longer on, flying duty. Nurses of the United States Navy and foreign governments have attended the school.

Approximately ten flight nurses have been killed in air evacuation service, seven in aircraft and three in jeep accidents. A comparable number of medical flight technicians have been lost. A large number of AAF air evacuation personnel have been cited for distinguished or meritorious achievement either as individuals or as units.

As an indication of the theater recognition of air evacuation, Major Gen. Paul R. Hawley, chief surgeon of ETO, commended Major Gen. Paul L. Williams, commanding general, Ninth Troop Carrier Command, on Sept. 28, 1944 as follows for a special assignment of airplanes to evacuation:

> I want to thank you personally, and in the name of thousands of wounded American soldiers, for the great help you have given the medical service through this campaign, but particularly during the past ten days. . . .
>
> One week ago there were more than 7,000 wounded American soldiers awaiting evacuation from the First and Third armies. The withdrawal of air lift for airborne operations had thrown the entire load on ground transport, which could not cope with the situation. . . . You (have) saved many lives and prevented an enormous amount of suffering during this emergency.



ADDED DATA ON REVISED DEFERMENT POLICY

The following data are to be noted in extension of the revised selective service deferment policy as published in The J.A.M.A., March 10:

1. Students are not included in these procedures.

2. Members of medical faculties who hold degrees other than that of doctor of medicine, such as Ph.D., do not come under the jurisdiction of the Procurement and Assignment Service.

3. This work should be completed by April 1 if protection is to be assured to those it is necessary to protect.

4. In filling out forms 42-A for the group 30 through 37, it is necessary only to forward one copy rather than three copies to the registrant's local board.

5. These forms do not have a place for certification but in the case of the Procurement and Assignment Service, as differentiated from all other certifying agencies, similar endorsement should be inserted in spite of advices to the contrary which are based on the standard procedure for all other certifying agencies.

6. All men holding the degree of doctor of medicine

in the groups affected require cerification by the Procurement and Assignment Service ,as well as all interns who do not receive their M.D. degree until completion of their internships.

7. It would be of considerable help to the Procurement and Assignment Service if the institutions would forward miltary record, if any, of the individual, such as "Applied for commission, physically disqualified on (date)." This could be attached as a notation to the forms.

8. State chairmen are being supplied with copies of form DSS-333, but it is not absolutely essential that such lists be filled out on standard forms. Lists on plain pieces of paper with the proper headings will serve satisfactorily and will not delay getting the information forwarded to the state chairman. Keep in touch with your state chairman in regard to further details and further directions from his office rather than from other sources.

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AMPUTATION CASES IN THE U. S. ARMY

In a recent report from the Office of the Surgeon General, it is stated that amputation cases in the United States Army reached a total of 6,027 as of January 1945, including 1 triplicate case, the first known in either this war or the first world war. There are no "basket" cases, the term used to denote loss of all four limbs, nor were any reported during the entire course of the first world war.

In the first world war there was a total of 4,403 amputation cases. Of the 6,027 cases in this war, 331 represent double amputations, that is, loss of two limbs. The remainder, or 5,695, are soldiers with one arm or one leg lost. Of the total number, approximately 2,000 cases have been treated at one of the six army general hospitals specializing in amputation cases and returned to civilian life. The hospitals include Walter Reed General Hospital, Washington, D. C.; Lawson General Hospital, Atlanta, Ga.; Percy Jones General Hospital, Battle Creek, Mich.; England General Hospital, Atlantic City, N. J.; McCloskey General Hospital, Temple, Texas, and Bushnell General Hospital, Brigham City, Utah.

Before discharge, each man is individually fitted with a custom made prosthesis and taugh complete use of his artificial limb. Only when he is able to care for himself and take his place in the civilian world is he released from army jurisdiction and medical care.

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REFRESHER COURSES FOR SOME MEDICAL OFFICERS

Major Gen. George F. Lull, Deputy Surgeon General, U. S. Army, recently announced that officers of the Army Medical Department who have been occupied with administrative and other nonprofessional work and who are being assigned duty utilizing their professional skills will have the opportunity of taking courses in their specialties under a new training program just inaugurated. The training will be voluntary and will be open to those members of the Medical Corps who, because of assignment to command, administrative or semiprofessional positions, have not been engaged in the professional side of medical service during the past twelve months or more and whose future military assignments will require professional activity. Every Medical Corps officer of the Army Service Forces returning from overseas assignment will be informed at redistribution stations of this new training program and will be asked to state whether he desires to avail himself of the opportunity. These refresher courses will be given at general hospitals and certain regional hospitals selected by the Surgeon General. Requests for this training will be submitted through channels to the Surgeon General, who will make assignments to hospitals. Officers selected for these courses will go on temporary duty for a period of not more than twelve weeks.

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NO FURTHER REDUCTION IN SIZE OF ARMY MEDICAL CORPS

The Office of the Surgeon General has advised that its recent action as approved by War Department directive of releasing a few medical corps officers to bring the strength of the corps within the allotted ceiling (The JOURNAL, Dec. 30, 1944) has been completed. At the present time the strength of the medical corps is within reasonable conformity with the troop basis of the Army, and no further reduction is contemplated until such time as overall planning now in process concerning the projected needs for medical care of the Army can be ascertained and a reduction of medical corps officers made in the same proportion.

Medical Corps officers who will enter on active duty after completing the Army Specialized Training Program in medicine and a suitable internship will during the coming months be used largely to replace those Medical Corps officers who are lost to the service.

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ARMY HOSPITALS SEEK OCCUPATIONAL THERAPISTS

A serious shortage of occupational therapists, who play a vital role in the reconditioning of sick and wounded soldiers, exists in army hospitals, in addition to the lack of nurses and trained medical technicians. The Office of the Surgeon General reported that of the 1,800 qualified registered occupational therapists in the country the Army has only 225 and has immediate need for another 225. Openings exist in all parts of the country for this highly important work. Applicants who are employed on a civilian status must be graduates of a course in occupational therapy approved by the Council on Medical Education and Hospitals of the American Medical Association or must be a registered ocupational therapist. The approved course has a minimum requirement of at least four years in an approved college. The Civil Service classification is subprofessional 5 and the pay is $1,800 a year, plus overtime. Applications for employment should be made directly to the Office of the Surgeon General, Washington, D. C., and application forms are obtainable at any post office.

TRAINING OFFICERS FOR THE ARMY MEDICAL CORPS

Courses of instruction in internal medicine and medical specialties and in general surgery and surgical specialties which are being set up in army service forces general and certain regional hospitals for army officers will be discontinued at the Mayo Foundation with the completion of the present quarters, according to an announcement at the Office of the Surgeon General.

Officers of the Army Medical Corps will continue in the Mayo Foundation their training in anesthesia, physical medicine and clinical roentgenology according to the usual schedule that has been in operation in these courses.

Courses in maxillofacial and plastic surgery and in other special fields for individual officers will be continued at the Mayo Foundation as requested by the Army or Navy. Over 1,200 officers have participated in the several courses in the Mayo Foundation since they were inaugurated in January 1942. These courses were organized on the assumption that during a twelve weeks period a sufficiently comprehensive review of the general fields of medicine and surgery could be accomplished to conform to the varied needs, experiences and training of the officers.

Following the war it is planned that facilities of the Mayo Clinic will again be utilized for courses on a basis similar to those conducted during the past three years for physicians being detached from military service and for civilian physicians.

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NEW LIGHTWEIGHT ARTIFICIAL LEG

The War Department stated recently that an improved artificial leg, made of light metals, plastic or fiber, will shortly be made available to amputees of the Army. The new prosthesis is the result of study and recommendations made by the National Research Council, National Bureau of Standards, artificial limb manufacturers, scientists, army and navy surgeons and the Veterans Administration and will be standardized for use by the Army. It provides the best innovations and improvements of the custom built leg now in use, and the important factors studied were interchangeability of parts, light weight, quality and strength of materials.

A cast aluminum knee joint for above the knee legs, consisting of knee block and shin section, and a cast aluminum ankle assembly, consisting of shin and foot sections, have been adopted. Both are to be produced in quantity as soon as the necessary modifications can be made for bonding to metal, plastic or fiber. Joints have been carefully tested by the Bureau of Standards, and specifications provide for the best available metal and finish.

A complete assortment of the various parts that go into an artificial leg will be made available to amputation centers so that each center will be able to continue the policy of making custom built legs in each amputation case.

THE ARMY'S RECONDITIONING PROGRAM

Soldiers recovering from battle wounds are making up credits toward obtaining high school and college diplomas while in convalescent hospitals, as part of the Army's reconditioning program. The curriculum offered by the program includes music, printing, automotive mechanics, business and army administration, electricity, photography, carpentry, pattern making, watch repairing, metal working, lettering and sign writing, welding, canvas and leather working and drafting. Patients are not held in army hospitals to complete any course of study. When they have reached the maximum benefit of hospitalization they are returned to duty.

Wounded soldiers, now being evacuated from overseas at the rate of more than 33,000 a month, first are sent to one of sixty-four general hospitals best suited for the special type of treatment required. When a patient has recovered sufficiently and no longer requires daily ward care, he is removed to a convalescent hospital.

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AUTHORIZED BADGE FOR MEDICAL PERSONNEL IN COMBAT

A special badge will be awarded to army medical personnel who serve with combat units under fire. The badge is of silver metal, elliptic, with the Medical Department's insigne, the caduceus, and the Geneva Cross superimposed on a litter surrounded by a wreath of oak leaves, and is to be worn on the left breast above decorations and service ribbons. The regimental commander is authorized to make the award for "satisfactory performance of duty under actual combat conditions."

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STATEMENT CONCERNING DISCHARGES HELD ERRONEOUS

Secetary of War Henry L. Stimson recently made it known that the statement attributed to the head of the Veterans Administration that 250,000 soldiers a month will be discharged immediately after the war ends in Europe is both unauthorized and without foundation. The basic elements in the War Department demobilization plan were made public last September 6 and remain unchanged. When hostilities cease in Europe the War Department intends to marshal against the Japanese every soldier and every item of equipment that can be used effectively to speed our final victory.

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WACS TO BE NURSE'S AIDES

As the result of plans to enlist medical Wacs, the recruiting of full time remunerated nurse's aides has been stopped by a War Department directive. Aides already in the service or now undergoing training will be retained. Because of the difficulty of transferring these civilians away from home and home responsibilities, the new plan has been adopted in the knowledge that medical Wacs can be transferred readily to places where there may be an acute shortage of nurses.

Original Articles

RHEUMATIC FEVER AS A PUBLIC HEALTH PROBLEM

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SPRINGFIELD

No one has ever attempted to define exactly when a disease ceases to be merely a clinical entity and becomes in addition, a public health problem. The difficulty of making such a distinction is enhanced by the changing concept of what constitutes a public health problem. In the not-too-distant past, only those diseases which appeared in epidemic form, taking an immediate toll of life, and those conditions of environmental sanitation which produced obnoxious odors, were considered to be dangerous to the public welfare.

Today, however, this concept has been broadened to the point where a disease is now considered in the light of its effect, either upon the individual as a member of the community, or upon the community as a whole.

When a disease affects a large number of the individuals within the community, it becomes more than an individual problem; when the individuals so affected are likely to be in the most productive span of life, the community welfare is threatened; and when social and economic factors, not within the control of the individual, affect the incidence and progress of the disease, community recognition and responsibility are needed. This method of approach has been applied to diseases such as tuberculosis, syphilis, and poliomyelitis. Rheumatic fever with its similar effect upon the general welfare, its infectious nature, and its close association with other infectious diseases should be considered as equally significant from the public health view point.

Incidence of Rheumatic Fever. — It is generally accepted that the incidence of rheumatic fever is high, but since it was not included in the list of reportable diseases until quite recently, exact figures are not available and recourse must be had to other methods of determination.

Table 1 shows the number of cases of rheumatic fever reported in Illinois since 1940, the disease first being made reportable by the City of Chicago in May, 1940 and by the State of Illinois in May, 1943.

TABLE 1
RHEUMATIC FEVER IN ILLINOIS

Year	Chicago	Downstate	State Total
1940	1,470	3	1,473
1941	579	29	608
1942	398	25	423
1943	203	102	305

In Norway, Denmark and Iceland, where reporting has been compulsory for 50 years, the statistics in general indicate an incidence of one to three cases per thousand total population. The criteria used for the diagnosis of rheumatic fever, however, are not readily ascertained, and in contra-distinction to the experience in this country, rates among adults were stated to be higher than among children. The indication is that these rates represent the number of attacks of illness rather than of new cases.

Swift[1] in analyzing the combined attendance

Presented before the Section on Pediatrics, 104th Annual Meeting, Illinois State Medical Society, Chicago, May 16, 1944.

at 56 cardiac clinics in New York City, where the standardized criteria of diagnosis formulated by the New York Heart Association are used, estimated that in 45% of the new patients applying for care at these clinics, the heart disease was of rheumatic origin.

Attempts have been made to use hospital admission rates as indices to the prevalence of rheumatic fever. As shown by Paul[2], these admissions which form from 2 to 3% of the total number of patients admitted to the medical services of general hospitals and about 6% of total admissions to children's hospitals, do not serve as a good index of prevalence, for they measure merely the extent to which local physicians use the average hospital for this particular disease, and the hospital admission rates thus become a useful measure of the importance, rather than the prevalence of a given disease in a given community.

Surveys among special groups provide a means of determining the number of individuals with clinical evidence of rheumatic heart disease within a given age group. Table 2 illustrates the findings of a number of surveys among school children.

TABLE 2
OBSERVED AND ESTIMATED PREVALENCE OF RHEUMATIC HEART DISEASE IN SCHOOL CHILDREN

Survey	School Population Involved	Organic Heart Disease Per 1,000	Rheumatic Heart Disease Per 1,000
Chicago, 1923 (3)	158,826	9.0	7.20
Chicago, 1924 (3)	153,671	15.0	12.0
Chicago, 1925 (3)	130,260	17.0	13.6
Florida, Illinois and Missouri, 1929 (4)	17,974	10.0	8.0
Philadelphia, 1937 (6) .	33,293	6.0	3.9
Cincinnati, 1938 (6) ..	85,389	3.6	2.0
Louisville, 1941 (5) ..	41,905	5.2	3.6

It should be emphasized that the value of such surveys depends upon the manner in which they are made. The data should be collected by someone who is familiar with and on the look-out for signs of rheumatic fever and rheumatic heart disease, rather than from brief notations about the heart made in the course of routine school physical examinations. More uniform diagnostic criteria are indicated.

Table 3 shows the prevalence of rheumatic heart disease among university students.

TABLE 3
PREVALENCE OF RHEUMATIC HEART DISEASE AMONG STUDENTS OF 13 AMERICAN UNIVERSITIES — COLLECTED BY HEDLEY

University	Number of Students Examined	Per Cent With Rheumatic Heart Disease
Stanford	1,740	0.58
Yale	5,027	0.46
Chicago	1,841	0.54
Illinois	4,662	0.88
Iowa	1,649	0.18
Michigan	3,482	0.55
Minnesota	5,028	0.10
Kansas	1,616	0.87
Syracuse	1,746	0.50
Cornell	5,840	0.79
Ohio	4,361	0.57
Tennessee	2,397	0.83
Wisconsin	3,620	0.10
TOTAL	43,012	0.61

Paul[2] has summarized the question of the incidence of rheumatic heart disease by stating that this condition has been detected among school children at a rate of from 0.3 to 4.0 percent, and among college students from 0.6 to 1.0 percent, and finds that a general estimate of case prevalence for rheumatic heart disease in the United States as a whole would indicate that between 350 to 700 cases exist for every 100,000 people.

An analysis of causes of rejection and incidence of defects in selective service registrants from 21 selected states, (not including Illinois) for the period November, 1940 through September, 1941 gave the rate of rheumatic heart disease as 3.5 for every 1,000 registrants.

Rowntree in a conference on rheumatic fever held in Washington in October, 1943 reported that as of July 1, 1943 there were 2,976,000 registrants aged 18 to 37 in Class IV-F; of these, 190,100 were so classified because of cardio-vascular defects. Applying the findings of the special Sub-committee on Cardio-vascular Diseases of the National Research Council to these 190,100 men, it would appear that on last July 1, somewhere in the neighborhood of 95,000 men, or more than 6 Divisions, were not fit for military service because of rheumatic heart disease.

Exact figures for Illinois selective service registrants are not available as yet, but it has been stated that 14 out of every 1,000 registrants examined in the state were rejected as unfit for military status because of cardiac defects.

TABLE 4

Deaths from Acute Rheumatic Fever and Chronic Rheumatic Heart Disease, with Age Specific Rates: United States and Illinois, 1940

Age Group	Estimated Population		Deaths		Rate per 100,000 Population	
	United States	Illinois	United States	Illinois	United States	Illinois
0-5	10,541,524	456,962	198	8	1.88	2.56
5-9	10,684,622	542,759	611	20	5.72	6.82
10-14	11,754,935	618,280	1,051	30	8.94	10.67
15-19	12,333,523	672,996	987	13	8.00	8.32
20-24	11,587,835	687,842	898	11	7.75	8.29
25-29	11,096,638	683,556	1,043	14	9.40	10.09
30-34	10,242,388	643,176	1,276	12	12.46	15.70
35-39	9,545,377	612,917	1,447	4	15.16	17.78
40-44	8,787,843	579,785	1,676	1	19.07	16.73
45-49	8,255,225	561,573	1,899	4	23.00	20.66
50-54	7,256,846	493,139	2,106	5	29.02	27.17
55-59	5,868,224	385,511	2,117	5	36.08	30.35
60-64	4,759,564	300,782	2,259	1	47.46	43.22
65-69	3,747,800	235,125	2,824	—	75.35	73.58
70-74	2,560,803	165,281	2,729	1	106.57	115.56
75 —	2,655,128	167,557	6,034	5	227.26	251.85

Applying the rate of 350 to 700 per 100,000 population to the population of Illinois between the ages of 5 and 21 would yield figures indicating that there are in Illinois from 6,889 to 13,778 cases of rheumatic heart disease in this age group alone.

Mortality In Illinois. — Some idea of the rheumatic fever problem in Illinois may be gained by a study of the mortality statistics. Table 4 gives the deaths from acute rheumatic fever and chronic rheumatic heart disease for the United States and Illinois by specific age groups for the year 1940. As may be seen, the Illinois age specific rates are consistently higher for all 5 year age groups under 40. The difference between the age specific rates for particular 5 year groups varies from 4% to 26%.

This consistently higher rate under 40 is shown graphically in Figure I. Had the Illinois age-specific mortality rates for acute rheumatic

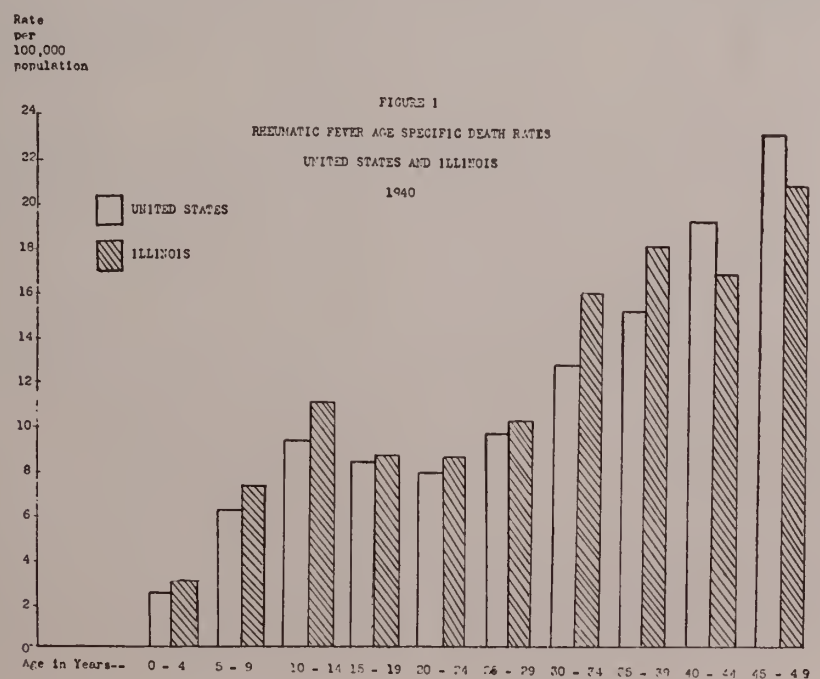


TABLE 5

Age Group	DEATHS FROM ACUTE RHEUMATIC FEVER ILLINOIS, 1940 and 1941 Deaths	% of Total Deaths From Acute Rheumatic Fever	Accumulative Per Cent	DEATHS FROM CHRONIC RHEUMATIC HEART ILLINOIS, 1940 and 1941 Deaths	% of Total Deaths From Chronic Rheumatic Ht.	Accumulative Per Cent
0-5	12	5.1	5.1	9	0.3	0.3
5-9	37	15.7	20.8	28	0.8	1.1
10-14	41	17.4	38.2	69	2.1	3.2
15-19	35	14.8	53.0	79	2.4	5.6
20-24	19	8.1	61.1	106	3.2	8.8
25-29	20	8.5	69.6	121	3.6	12.4
30-34	19	8.1	77.7	164	4.9	17.3
35-39	6	2.5	80.2	190	5.7	23.0
40-44	3	1.3	81.5	201	6.0	29.0
45-49	6	2.5	84.0	218	6.6	35.6
50-54	14	5.9	89.9	259	7.8	43.4
55-59	5	2.1	92.0	226	6.8	50.2
60-64	2	0.8	92.8	256	7.7	57.9
65-69	3	1.3	94.1	325	9.8	67.7
70-74	6	2.5	96.6	364	10.9	78.6
75-79	5	2.1	98.7	297	8.9	87.5
80—	3	1.3	100.0	414	12.4	99.9
TOTAL	236	100.0		3,326	99.9	

fever and rheumatic heart disease applied to the population of the United States by the same age groups, there would have been a 37% increase in the number of deaths from these causes in the country as a whole.

From Selective Service figures, it has been shown that rheumatic heart disease is an important cause of disablement in a very valuable segement of our society. A study of the data on age at death from acute rheumatic fever and rheumatic heart disease further serves to illustrate that these conditions are also responsible for a large loss of life during the most productive and reproductive span of man's existence when family responsibilities are usually the greatest.

Hedley[8] in his Philadelphia hospital studies showed that of the deaths from rheumatic heart disease and super-imposed subacute bacterial endocarditis, 32% of all such deaths occurred in the age group up to 19; 21% between the age of 20 and 29; 21% between 30 and 39, and 15% from 40 to 49.

Table 5 shows the number and percent of total of deaths from acute rheumatic fever and rheumatic heart disease in Illinois by age groups. The variations from Hedley's observation are probably due to the fact that the Illinois figures do not include deaths from subacute bacterial endocarditis and are not limited to hospital deaths.

Figure II shows the leading causes of death in Illinois in the age group of 2 to 34 for the years 1940 and 1941. As can be seen, deaths from the rheumatic fever group were greater than those from pneumonia and were exceeded only by those from violence and accidents, and tuberculosis.

Figure III shows that the number of deaths in this age group from rheumatic fever and rheumatic heart disease more than double the combined total of deaths from seven other common infectious diseases.

Economic and Social Aspects. — Taran[9] has said that rheumatic fever is a disease of the poor and that more than 90% of the cases are found among children belonging to the poorer strata of the community.

Paul and his associates[10] in New Haven found that the highest incidence of rheumatic heart disease (48 per 1000) was among pupils attending a school in one of the poorer districts of the city and that this incidence was 1.5 times higher than that found in a public school in one of the better districts, and 8 times high-

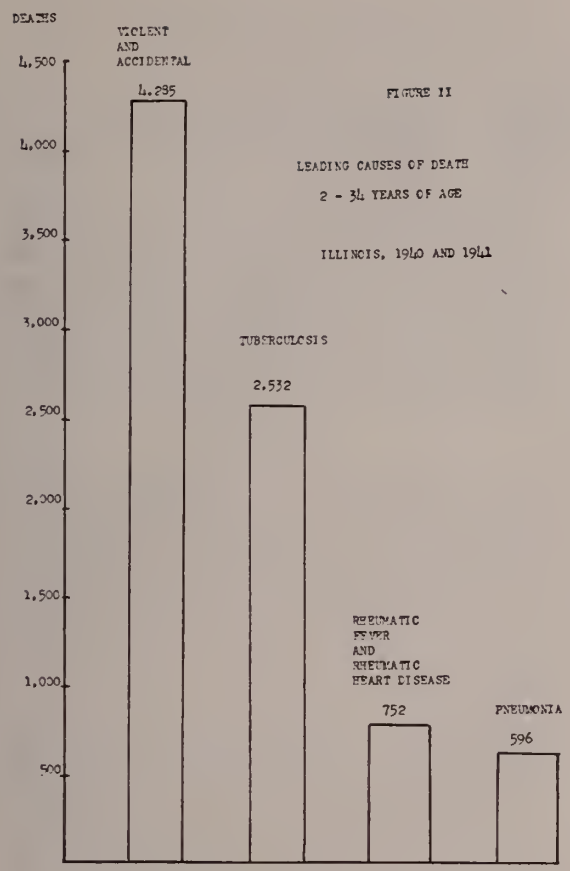


FIGURE II

LEADING CAUSES OF DEATH

2 - 34 YEARS OF AGE

ILLINOIS, 1940 AND 1941

er than the incidence in a nearby private urban school.

Wilson[11] in a study of the social, environmental and economic condition of 329 subjects attending the cardiac clinic of the New York Nursery and Child's Hospital (in 1926) found that a majority of the children came from moderately well-to-do homes of the industrial laboring class of the city and pointed out that these findings were in accord with the observations of the Housing Inquiry of the Medical Research Council of Great Britain, which reported that: "The greatest incidence of rheumatism was found in the better class of industrial homes."

It would seem to be well established that most of the cases of rheumatic fever occur among the lower income groups. When it is considered that the treatment of acute rheumatic fever involves expert medical and nursing care, hospitalization, usually, during the acute stage, and then rest in bed for a long period; and that following complete recovery, steps such as periodic examination, correction of physical defects, and adjustment of the home situations to provide a favorable environment, must be exerted to prevent a recurrence of the acute infection, it can readily be appreciated that the ability to finance such a program is usually well beyond the means of the average family.

As Huse[12] has stated, control of rheumatic

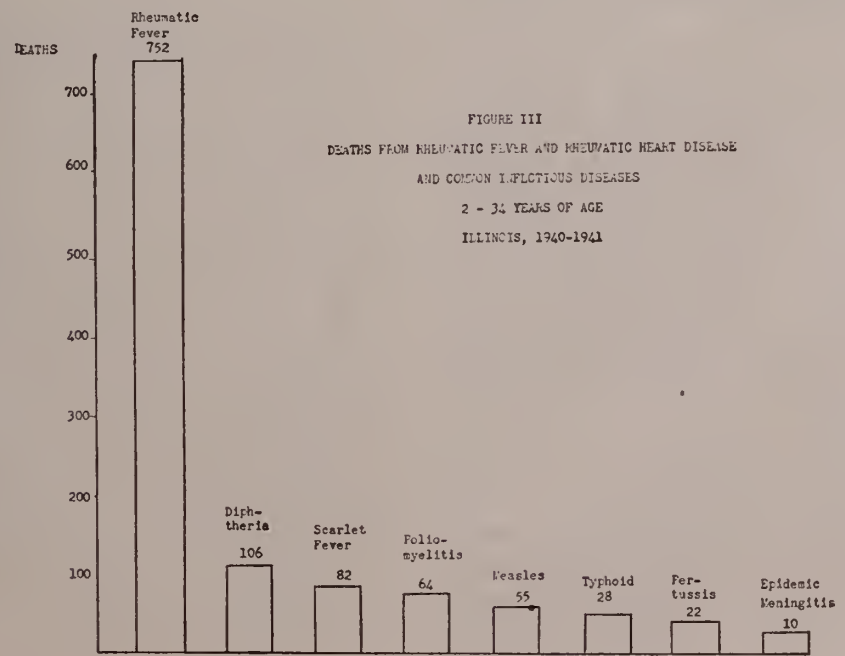


FIGURE III

DEATHS FROM RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

AND COMMON INFECTIOUS DISEASES

2 - 34 YEARS OF AGE

ILLINOIS, 1940-1941

fever also calls for parents educated to be aware of suspicious symptoms in their children, physicians trained in the diagnosis and treatment of the disease; hospital facilities for the care of sick children; convalescent wards, sanatoria, convalescent homes, or small nursing homes for the provision of long-time bed care for the child whose own home cannot be made adequate for the purpose; education and recreational therapy for children who are in bed for long periods; public health nurses to visit the home; social agencies to help adjust social and economic factors in the home; well developed school health service to watch for symptoms of recurrence; and occasionally vocational-rehabilitation service for the guidance of adolescents with serious heart damage. To achieve these services, more than money is required. There must be organized effort in the community, in the State and on the Federal level.

In England, the London County Council School Medical Authority has a plan which operates in conjunction with the Ministry of Health and Board of Education to discover cases, ensure proper diagnosis, provide care during the active stage, and give supervision after recovery. The services of the family physician, the clinic, the hospital, the convalescent home, the school, and the home are so integrated that the child with rheumatic fever receives adequate care during the acute attack, and regular medical supervision afterward.

One of the most forward steps was taken in this country when the American Academy of Pediatrics in 1938 recommended that heart disease should be considered a crippling condition, and Congress in the following year provided additional Federal funds for crippled children's services, with the understanding that the funds would be used for assisting state agencies in developing services for children with rheumatic fever and heart disease. According to the Children's Bureau, 14 states had such programs in operation in 1943.

In Illinois the Division of Services for Crippled Children is prepared to set up demonstration programs in selected areas as soon as qualified medical personnel become available. These programs can only serve to point the way until the time when more adequate funds are made available, either through amendment of the Social Security Act or through State appropriations.

Already an increasing number of children with cardiac conditions are being referred to the crippled children's clinics being held throughout the state.

Voluntary agencies, such as the Chicago Heart Association, have nobly performed their traditional role of calling the attention of the public to the danger of these conditions and of demonstrating that even with their limited funds, progress in control can be achieved.

SUMMARY

That the rheumatic fever syndrome constitutes a public health problem is demonstrated by its incidence in the general population, by its rank as a cause of death in a most important age group, and by the social and economic factors that place its control beyond the means of the average family.

Both voluntary and official agencies are increasing their capacities to cope with this problem and the cooperation of the medical profession in aiding and implementing these programs and in stimulating public interest is as important as continued research into the causes, modes of spread and treatment of the rheumatic fever syndrome.

REFERENCE

1. Swift, H. F.: "Public Health Aspects of Rheumatic Heart Disease" J.A.M.A. **115**: 1509, 1940.
2. Paul, J. R.: "The Epidemiology of Rheumatic Fever" Am. Heart Association, Metropolitan Life Ins. Co., 1943.
3. Bainton, J. H.: "Heart Disease and School Life" Am. Journal Public Health **18**: 1252, 1928.
4. Clark, T.: "Heart Disease a Public Health Problem" Pub. Health Rep. **44**: 2463, 1929.
5. Weiss, M. M.: "Incidence of Rheumatic and Congenital Heart Disease Among School Children of Louisville, Ky." Am. Heart J. **22**: 112, 1941.
6. Rauh, L. W.: "The Incidence of Organic Heart Disease in School Children" Am. Heart J. **18**: 705, 1939.
7. Hedley, O. F.: "Incidence of Rheumatic Heart Disease Among College Students in the United States." Pub. Health Rep. **53**: 1653, 1938.
8. Hedley, O. F.: "Fatal Rheumatic Heart Disease in Philadelphia Hospital" Pub. Health Rep. **55**: 1707, 1940.
9. Taran, L. M.: "Problems in Management of Rheumatic Disease in Childhood" Jour. of Pediatrics **24**: 62, 1944.
10. Paul, J. R., Harrison, E. R., Salinger, R., and De Forest, G. H.: "The Social Incidence of Rheumatic Heart Disease" Am. J. Med. Sc. **188**: 301, 1934.
11. Wilson, May G.: "Rheumatic Fever" The Commonwealth Fund, New York, 1940.
12. Huse, Betty: "Rheumatic Fever in Children" The Child, U.S. Dept. of Labor, **7**: 11, 1943.

RHEUMATIC FEVER IN CHILDHOOD

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CHICAGO

Rheumatic fever is essentially a childhood disease. The highest incidence of onset is found between five and nine years of age. In the child the disease presents its most typical symptoms as well as its greatest variety of manifestations.

It is conceivable that the "primary" infection occurring in the child with its virgin soil producing symptoms well recognized by the pediatrician, may occur in adult life. If this is the case such a clinical picture has not as yet been described nor recognized.

In some phases of the disease and in many of its manifestations fever is not a marked symptom or not present at all; therefore, the term rheumatic infection may be more correct and lead to a better understanding of the disease.

The etiology of rheumatic infection is still unknown. A close relationship to hemolytic streptococcal upper respiratory infections has been demonstrated both in regard to the primary infection as well as to reactivations or exacerbations of the disease. However, similar upper respiratory infections occurring in other children have not been followed by the development of rheumatic infection. Likewise, reactivations of the rheumatic infection have been found to occur in many instances without additional hemolytic streptococcal infections.

Some of the predisposing causes are of interest and importance. The climate is a definite factor, the disease being most prevalent in the temperate zone. A familial tendency or predisposition to the disease has been recognized for a long time and seems to follow definite laws of heredity. The incidence of the disease is much higher in children of rheumatic families than in non-rheumatic. It may, therefore, be possible to anticipate and to predict the development of rheumatic infection in some children. The present view of the pathogenesis of rheumatic infection may be expressed as follows: Some individuals conditioned by heredity and environment respond in a particular manner to hemolytic streptococcal infections and their reaction produces the clinical and pathological picture rather than a specific etiological organism.

Rheumatic infection is a systemic disease of marked chronicity resembling both pathologically and clinically tuberculosis and syphilis. The pathology of rheumatic infection has undergone an interesting evolution. Arthritis and other rheumatic manifestations were formerly thought to produce the valvular changes and the involvement of the heart considered a complication instead of a primary manifestation of the disease. Similarly our attention was focused upon the vegetations of the heart valves and the changes in the pericardium, and not until rather recently have we discovered and fully appreciated the involvement of the myocardium. Pathological changes in the myocardium occur early in the disease. They are often subclinical i.e. not evidenced by physical examination but may be demonstrated by such changes in the electrocardiogram as prolonged PR intervals, flattening of the T_2 wave and disturbances in the QRS complexes.

Rheumatic infection is an inflammatory condition of the fibrous tissues throughout the body involving first and foremost the heart, often the joints, the subcutaneous tissues, occasionally the brain and other organs. A typical lesion is the submiliary nodule or Aschoff's body. These lesions are found in close relation to the adventitia of the small arteries and vary somewhat with the structure of the organ in which they are found. Swift has pointed out that there are two main types of lesions in rheumatic infection, the one proliferative and the other exudative. The proliferative one is the essential lesion, the exudative lesion incidental and nonspecific. It is interesting to note that the clinical course and presenting symptoms parallel the activity and changes in the pathological lesions.

The onset of rheumatic infection in childhood is usually rather insidious, often difficult to diagnose and frequently occurs unrecognized. The disease seems to remain in its systemic phase for a relatively long time, with minimal local tissue manifestations. During this phase of the disease, however, the child presents a rather definite and striking clinical picture. We may briefly enumerate the symptoms and signs presenting themselves in a case of rheumatic infection as follows:

Fatigue, always a serious symptom in a child

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and resulting from the toxemia present. *Irritability* is usually present, also a result of the toxic effect of the infection. *Anorexia* together with loss of weight or failure to gain. A rather distinctive *pallor* of the face together with cold and clammy hands and feet. This pallor does not reflect a state of anemia but rather a vasomotor instability. *Night sweats* are common and parallel the severity of the infection. *Epistaxis,* spontaneous in character, not requiring any degree of trauma, is frequently met with. Elevation of the *pulse rate* or an abnormal increase in the rate in response to fever or exercise. *Low grade fever,* with the increase in temperature usually occurring in the afternoon. A variety of *vague pains* referred to the extremities, joints and the abdomen. These pains usually are relieved by heat and salicylates.

Many of the above symptoms and signs are due to the toxemia produced by the infection and differ therefore in no way from toxic states due to tuberculosis, undulant fever, leukemia, or acute and chronic focal infections. Others, such as epistaxis, the changes in the pulse rate, and growing pains, give evidence of minimal rheumatic localizations with definite rheumatic pathological processes.

The diagnosis of rheumatic infection in its systemic phase is often rather difficult. It may require some time to prove or disprove its correctness. With the aid of the sedimentation rate we may exclude acute infections. If our case is found to have increased sedimentation rate on repeated examinations, we are dealing with a chronic disease. Tuberculin tests together with chest studies would differentiate this disease. Blood studies, such as agglutination tests, and morphological studies would help to eliminate undulant fever, blood dyscrasias and other chronic infections.

The history of rheumatic infection in the family, the presence of the above symptoms and the chronic nature of the disease, make it possible to establish a tentative diagnosis of early rheumatic infection. The subsequent course of the disease together with the appearance of major manifestations will definitely establish the diagnosis.

The major manifestations of rheumatic infection, such as carditis, with valvular heart disease, polyarthritis, Sydenham's chorea, subcutaneous nodules and skin lesions, are well defined. We have evidence to believe that localizations occur in almost any organ. Rheumatic pneumonia, a rather rare localization, has been definitely established by pathological studies. Enlargement of the liver is often seen in children during the active phase of the disease and precedes cardiac failure. This suggests that the enlargement is not due to passive congestion but rather to direct involvement of the liver by the rheumatic process.

The course, the damage to the heart, and ultimate outcome of the disease seem to be directly related to the severity, duration and recurrency of the systemic infection.

The correct estimation and evaluation of the activity of the disease are of greatest importance. The presence of such manifestations as polyarthritis, acute carditis, showers of subcutaneous nodules and exanthemata, clearly indicate activity of the disease. On the other hand, in many cases not presenting any major manifestations it is rather difficult to determine clinically if the infection is latent or active. In these cases regularly repeated erythrocyte sedimentation tests together with differential blood counts have proven to give in most cases reliable indications as to the state of the infection.

2376 East 71st Street

DISCUSSION

Dr. Edmund Lawler, Chicago: I think about the only thing I can do is open the discussion and hope someone else will carry on. After hearing Dr. Elghammer's very excellent paper I do not know of anything of any importance that I can discuss.

I believe available educational facilities, attention to hygiene, adequate medical supervision, and adjusting the child physically and emotionally to his handicaps, are factors which are very important, and these factors are such as may require convalescent institutional care in a great many cases.

Unluckily, such ideal conditions do not exist in very many districts.

I further believe that opportunities for research and training should be made available. My problem in a great majority of cases of the children I have with rheumatic fever, is treating the child, perhaps more often the mother, to relieve her of emotional strain.

One of the hardest things in pediatrics is to have a child with a temperature and symptoms of rheumatic infection, and to try to handle that child at home. I think it is a serious problem and especially with the summer weather coming on. In the winter-time we don't have so much trouble keeping

the child in the house, but the warmer weather makes it very difficult to hold down a lot of these children who really should be kept quiet.

In nice weather mothers will bring their children in or will call up and want to know if Johnny can go out in the yard and sit in the sun. The first thing you know, Johnny is running around the yard.

Twenty years ago or so, endocarditis was thought to be the only well recognized common manifestation of rheumatic heart disease, either acute or chronic. Only occasionally was pericarditis admissible as a complication. Involvement of the myocardium was perhaps thought of only as a terminal complication.

Today we are interested in the early manifestation of rheumatic heart disease so we can try to prevent the findings of endocarditis.

Dr. M. L. Blatt, Chicago: When Dr. Black and Dr. Elghammer have finished the discussion of rheumatic infections there are very few of us who feel we can add much to the subject.

Through their experience and under their leadership the problem of rheumatism in children this community and the state at large have profited.

I would like to echo Dr. Elghammer's words regarding difficult diagnosis. I think of no disease that comes under our observation that presents greater difficulty in diagnosis. I do not believe every child with cold hands and pallor of the face and fatigue and perhaps some of the other symptoms, is of necessity harboring a rheumatic infection. It has always seemed to me that there are many subacute infections of the respiratory tract associated with glandular infection in which there are similar findings.

I believe that changes in blood and sedimentation rate are our best indices in changing a probable to an absolute diagnosis in the cases in which there are no skin manifestations, chorea, polyarthritis or cardiac manifestations.

As Dr. Elghammer has said, it is a very important disease in childhood, and through his and Dr. Robert Black's efforts it is assuming more importance now than in the past.

I do not agree with Dr. Elghammer that this disease is based on a hereditary predisposition. It has been my experience that rheumatic fever, like tuberculosis, is a contact infection, I am of the opinion that we will eventually determine the organism and find that the grandmother has transmitted the disease to her grandchildren who are, of course, cousins. I think it is a contact infection, and I believe that the research effort will define the specific bacterial or virus etiology.

Dr. H. William Elghammer, Chicago (closing): There is no evidence to date giving us any right to believe this disease to be similar to tuberculosis as far as contact infection is concerned. As Dr. Blatt referred to it, there are outbreaks of this disease. In an outbreak of rheumatic infection at Great Lakes Naval Training Station a careful study was made of any previous rheumatic manifestations. An interesting thing was that the histories obtained from the men's families were negative, showing no rheumatic infection.

But after contacting the doctors in the various neighborhoods, they found an incidence of over 50 per cent of positive histories of rheumatic infections. In other words, these patients 18, 20, 22, 24 years of age, coming to the camps, experienced streptococcal infections. A great many of them came down with rheumatic infection, and at least 50 per cent of them were old cases of rheumatic infection. They were reactivations, not primary infections.

Another thing that is rather interesting, and which would have a bearing on Dr. Blatt's idea, is that I do not know if anyone has ever seen a case of primary rheumatic infection in an adult. Primary infection seems to occur in childhood. As I mentioned before this response on the part of the host differs from the usual pathological reaction. It is a conditional response on the part of the individual, and that is as far as we can go up to date with the knowledge we have of the rheumatic infection.

THE TREATMENT OF THE RHEUMATIC SYNDROME

PHILIP ROSENBLUM, M.D.
CHICAGO

In the management of the rheumatic syndrome, one deals with children suffering from a progressive disease which may be, and often is, of many years duration. It is a disease which may damage the heart beyond repair, but in addition, it often produces chronic invalidism with all the associated psychosomatic disturbances that come in its wake. Proper medical management, therefore, must aim at the following: the arrest of the progression of the active rheumatic process, prevention of recurrent attacks and of cardiac damage as far as possible, besides the prevention of psychic disturbances attendant upon a chronic protracted illness. Finally an attempt should be made to fit the patient into a useful occupation. This may be done even with many of those considered hopeless cardic invalids. Work along these lines has already been started in many communities including Chicago.

Since there is no known successful remedy for

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rheumatic heart disease, the best management depends as much upon the public health facilities which are available and the intelligent use of them as upon the use of medication or other specific therapeutic agents. Rheumatic fever, unlike infantile paralysis, has the tendency to acute exacerabations and this necessarily involves a long range therapeutic program whenever a diagnosis of rheumatic heart disease is made. Care begins with the acute stage and continues through convalescence and for years after puberty as a general rule. This will involve an adequate program of proper educational and vocational guidance with the cooperation of public health organizations. This plan has been evolved to a much greater extent in England than in our country.

The treatment varies with the stage of the disease. The care of the acutely ill child can usually best be given in a hospital or in a sanatorium where there are adequate facilities for the care of acute illness. Nevertheless, many acutely ill children may be adequately treated at home. Bed rest is the most important single therapeutic measure. Rest should be both mental and physical. One must realize that he is dealing with an inflamed organ, the heart, and that drugs, up to now, have but little influence upon the inflammatory process. Even though the heart cannot be put completely at rest, this should be approached as closely as possible. Too much emphasis cannot be placed on the necessity for rest and quiet as essential to a favorable outcome. This period of rest may involve many weeks and even months, but there are some patients who require only a few weeks in bed.

There is no known successful remedy in the treatment of rheumatic heart disease. Drugs are of value only in certain passing phases. Treatment by vaccines, sera, or sulfonomides has proved disappointing and it is the consensus of opinion that sulfonomides may even be harmful; however, my personal experience similar to that of Dr. Zahorsky of St. Louis, Missouri, has convinced me of the efficacy of the sulfonomides for the first two or three days of what appeared to be a rather severe attack of rheumatic fever and then switching over to regular doses of salicylates; the results at times are rather striking. I think this deserves further trial and study. Data to date has shown that penicillin is of no value in rheumatic fever. Salicylates are the most important drugs during the active stage of the disease. They act by reducing the fever, joint swellings, muscle pains, tenderness and related symptoms. Unfortunately there appears to be no comparable improvement in nodules, chorea, skin rashes or carditis. According to most authorities, it does not affect the rheumatic process within the heart. However, recently Coburn and his co-workers have presented some interesting figures which may prove the contrary. Rather large doses are usually necessary, 120 to 150 grains daily depending upon the size of the patient. When giving these heavy doses one should be alert for the occurrence of toxic symptoms such as nausea, vomiting, and tinnitus. Visual disturbances also may be present. Full therapeutic dose should be given for several days, then gradually reduced. If the joint pains return, the dose is increased again. If toxic signs appear, the drug is stopped for a day and resumed in smaller doses. Boas and Ellenberg observe a striking decrease in the amount of pericardial fluid in a number of patients with massive pericardial effusions following large doses of salicylates. The action seems to be on the effusion itself.

Dietary regulation is of less importance. The diet should be adequate, high in vitamins and easily digestible. As soon as the rheumatic patient feels like eating a regular diet, this may be given. Fluids should be forced to replace the water lost through perspiration. Convalescent serum and multiple transfusions have been tried with no satisfactory results. Fever therapy also seems to have no benefit on the rheumatic process and those patients whom I have observed taking the fever therapy were most unhappy during its application. Sedatives such as codein, morphine, and the barbiturates are very helpful for the relief of pain and to facilitate rest which is so essential.

One should take all possible measures at hand to place such a child in as favorable an environment as possible for his or her recovery. Sometimes in spite of all this a patient may grow steadily worse; then again, when all advice as to care is regularly ignored, and, when seen sometime later, the child's condition may be excellent. Thus, it is difficult to evaluate many

of our therapeutic results as the course of the disease is so variable.

Pericarditis with effusion, while very distressing, rarely requires any special treatment other than the usual general therapeutic measures. Aspiration is seldom indicated or beneficial. Chorea may require protracted bed rest and considerable sedation. However, the average case requires from six to eight weeks. Nirvanol has been used as have many other drugs with equivocal success. However, fever therapy when used in the severe choreas seems to shorten the active period by about one-third, but here again the treatment is not a very pleasant one.

Following the acute phase of the disease, we pass to the less active period. One must always bear in mind that a characteristic feature of rheumatic disease in children is its tendency to recur. This phase of rheumatic fever is essentially one of low grade carditis, accompanied usually by mild fever and anemia, skin rashes, and sometimes subcutaneous nodules. Rest, which is so important at this time often presents a real problem because the patient frequently feels quite well. It is necessary to acquaint the parents and the patient with the nature of the disease in order to get the necessary cooperation. Even though the patient seems quite well, if we can assure him that he is being restricted temporarily only because of an active disease process and in order to minimize the amount of permanent heart damage, it is surprising to see how readily the average child will adjust himself to this program. Resumption of activity of the patient should be gradual and under constant scrutiny. Convalescent homes or sanatoriums offer ideal conditions for this period although foster homes are being used more and more because so many of the patients come from the underprivileged groups. The services of a trained social worker and public health nurse are valuable adjuncts to the successful long-term treatment and essential follow-up adjustment. Good medical supervision is important in any pediatric condition. Measures that improve the general health are essential. These include supervising the proper diet, instructions concerning environmental conditions, correcting bodily defects, such as anemia and the elimination so far as possible of all foci of infection.

The question of tonsillectomy is always a difficult one to decide. Tonsils should be removed whenever there is a history of repeated tonsilitis or other reason for their removal, even though no rheumatic process is associated with them. However, routine indiscriminate removal of tonsils and adenoids should be discouraged. When done, complete surgical enucleation should be performed as partial removal may even be more detrimental than leaving the tonsils in. No tonsillectomy should be done in the active stage of the disease. It is advisable to give sulfonomides for a few days preceding and following the tonsil operation. Children with rheumatic heart disease tolerate such operations very well.

The amount of exercise permitted will vary. In former years the presence of a murmur alone usually was enough for many physicians to restrict the patient's activity unnecessarily. To restrict activity on inadequate grounds will do more harm than overlooking a slight organic lesion and permitting full activity. The mental affect of telling the patient or parent that a heart murmur exists is tremendous particularly if it is followed by vague advice to take things easy for a while. A fear may develop towards all forms of activity and a subsequent lack of exercise soon reflects itself in a poor physical state. (It is essential that the physician be fully acquainted with the physical condition of the patient before prescribing or prohibiting exercise.)

For the past seventeen or eighteen years we have taken each year about 85 to 90 children with organic heart disease at Sunset Camp located now at Bartlett, Illinois. These children are permitted to play baseball, swim, take hikes, and it is the conviction of the medical advisory board that this has had no harmful result; on the contrary, their mental and physical condition seemed to improve. In the selection of the children who were to go to Camp we were always careful, however, to be sure that there were none, as far as we could ascertain, with active rheumatic infection, which, as you know, is really what matters and not the valvular involvement or the size of the heart.

Heart failure in children differs from that in adults in that infection is the principle cause in children and not mechanical factors which are

responsible for failures later in life. Right sided heart failure with dyspnoea is the most common type. Since infection is usually present in heart failure of the rheumatic child, digitalis is not as effective and the dose often required to produce the desired effect approaches the toxic one. A trial may be made but the patient should be watched very carefully for signs of digitalis poisoning such as nausea, vomiting, and digitalis electrocardiographic abnormalities. Diuretics are helpful especially theocalcin in dosage of 7½ to 15 grains three times a day. Many of the other diuretics including mercurials are often effective. 100 ccs of 25% glucose solution given intravenously two or three times a day is, in my experience, beneficial, and sedatives are used as in any form of heart failure.

Prevention is the keynote of pediatric endeavor and if the rheumatic syndrome and its complications were understood by parents, preventive measures could be applied at a time when they are of greatest value to the child. The physician should become rheumatic fever conscious and if possible this disease should be made reportable everywhere as it is in many cities and a few states. If physicians would see to it that every child who recovers from acute illness, mild or severe, is examined two or three weeks later, a good many with rheumatic manifestations would be detected earlier and preventive measures could be instituted in an endeavor to prevent more serious sequelae. Early recognition of the so-called "growing pains" and change of behavior so commonly seen in the early stages of chorea, and often first recognized by the child's school teacher, would lead to more prompt diagnosis and proper management. It is reasonably safe to assume that prevention of hemolytic streptococcal infections will prevent rheumatic fever. A great deal of work has been and is still in progress along this line of endeavor. Practical attainment of this leaves much to be desired, yet prophylactic efforts are justified since the degree of progressive heart disease is proportional to the number and severity of the recurrences of the rheumatic fever. Individuals recently recovered from rheumatic fever, should as much as possible avoid contact with patients suffering with streptococcal infections. The removal of an especial rheumatic subject to a warmer climate is indicated. The removal of all foci of infection, tonsilectomy when indicated, chemoprophylaxis are desirable. There is considerable evidence accumulated to show that if sulfonomides are given from September to June in doses of one to two grams daily, the number of recurrent attacks of rheumatic fever are greatly reduced. At the present time, however, sulfadiazine or sulfathiazole are preferable. A convenient method is to give two doses of 10 grains each daily, morning and evening, which will usually give a blood level of two milligrams percent. The feeling is that when toxic symptoms do appear they manifest themselves from the 14th to the 50th day. Therefore, during this period closest observation of patient under treatment is necessary. Salicylates have also been used by Coburn and others to prevent recurrent rheumatic attacks. They are given during the period of streptococcal sore throat and for several weeks thereafter. However, when using salicylates one must be very careful not to overlook activity which may be masked by them. The value of streptococcus vaccine is inconclusive, although there have been several encouraging reports. An adequate high vitamin diet is desirable, as is anything that improves the patient's resistance. These patients should avoid as much as possible damp overcrowded quarters and contacts as much as possible with other rheumatic subjects or those with respiratory infections especially those of streptococcal etiology. That is the reason why, in the more or less latent period hospitals and sanatoria are not as desirable as proper facilities at home or in a convalescent environment where they will not be exposed to too many infections.

How do we know the rheumatic fever is inactive? Before the disease can be considered inactive the following criteria are desirable: a normal rectal temperature, 99.8° F. or under, normal pulse and white count for ten consecutive days, in the absence from any anti-rheumatic drugs; the hemoglobin and the erythrocyte count should improve and the sedimentation time should have returned to normal or near normal. If one does the Weltman Serocoagulation test, he will find that the Weltman reaction becomes normal some time before the sedimentation rate. In other words if the sedimentation time is becoming slower, even though it has not

reached normal and all other signs point toward recovery, the patient may be permitted up and about. The return of the electrocardiographic changes to normal or its becoming static will also help to decide whether the infection has subsided. Gain in weight and the freedom of all manifestation of activity, such as nose bleeds, skin eruptions, subcutaneous nodules, and joint pain are important criteria. There should also be a satisfactory improvement in the patient's general condition. Repeated medical examination at regular intervals is necessary to detect any sign of reactivation and to guide the patient in his future activities. No doubt many children with rheumatic carditis recover as all of us have had patients who are now in the armed forces carrying on with apparently no ill effects. However, there is always the danger of these rheumatic hearts developing subacute bacterial endocarditis upon their rheumatic heart condition. There must be continuity of care until such a time patient no longer needs help of any kind.

104 S. Michigan Ave.

DISCUSSION

Dr. S. C. Henn, Chicago: That is an excellent resume on all of the treatment of rheumatic fever. It seems such a hard thing to discuss when we don't know the cause of it, and in that we do not know the cause, it seems to be one thing that should stimulate the whole country toward making further study or attempting to find the cause.

I became just a little bit irritated about a most worthy cause, and that is, of all the attention paid to our polio, not that I don't think such attention is correct or should continue, nevertheless the fact that so much attention is given to that disease almost obliterates other diseases in one fell swoop.

In consideration of rheumatism we have, first, the preliminary events which may lead to an attack of rheumatism, and after there has been one attack of rheumatic fever it seems that sword hanging above the individual is on sort of a rubber band, waiting to strike him again in the future.

We all think of respiratory infection as being one of the preliminary leads to rheumatic heart disease. We do some peculiar things, sometimes, about respiratory diseases. We take our children to school. Well, maybe we have a little fellow in room 303 who has a mother who is rather interested in his health, and when he gets a sniffle or cold keeps him home. Well, maybe he is back within three or four days, maybe a week later. Perhaps he gets another cold in ten days or so, and again his mother keeps him home. He falls a little behind in his school work, and he doesn't do quite so well, and perhaps his mother goes over to find out what it's all about. She meets the teacher, and she is greeted with something like this:

"Why don't you let Johnny come to school? He is spoiling the record of our attendance in room 303!"

I have been particularly interested in that, because it happened in my own family many years ago. We had a little boy who was subject to frequent respiratory infections, who had a good deal of asthma, and one thing I have always admired his mother for, more than I could give myself credit, was that whenever our boy had any respiratory infection he went to bed. I will never forget one time when my wife went over to see about Bob's affairs at school. She was greeted by the teacher, who said, "Why don't you make him come to school? He has spoiled our attendance record!"

My wife is rather an even-tempered individual most of the time, and she said, "Don't you tell me to bring my child to school! Whenever he has a cold, he goes to bed! If he has one every week he's going to stay in bed!"

I believe that is an ideal that should be carried out much more often by mothers. If we let one little fellow stay in school when he has an acute respiratory infection, maybe he will weather it all right; maybe there will be four or five of his immediate friends in his class who may get some respiratory infection and have rather bad results.

Another good example of that occurred on our south side, where we have the Hyde Park school for little children, where they have a kindergarten that takes care of many of the smaller children. It is run by a very fine woman who is a Christian Scientist. Yet she has a lower rate of respiratory infections in her group than any nursery school that I know of.

The reason for it is that when any of her children come to school and exhibit any evidence of a respiratory infection, they are sent home immediately. We get that from a woman who is a Christian Scientist.

Perhaps many of you will remember Dr. Bookwalter, one of our very best nose and throat men. He had a son who went to that school, and he was sent home frequently. It seems sort of a reflection on some of our medical ideals when we have to depend upon the laity, and particularly upon a member of the Christian Science faith, to take care medically of our children.

I think that is prophylactic care against infection. In the furthering of prophylactic care, particularly with these individuals who start to go on those little detours that Dr. Crawford spoke of, if, when we start to check up on that individual, perhaps we don't have anything definite. I think he is perfectly right about getting them on the well-traveled road to health. That begins with a general checkup.

We don't know what causes rheumatism, so we

can't give any specific medication for that condition. However, we can take that individual as a human being and do all those things that tend to put him in a better physical condition.

I wonder whether we consider rheumatic heart disease as being hereditary. I think you find it many times, when you are checking to see whether you should take out a little fellow's tonsils or not, when it is sort of a borderline case. You may have a few glands to watch; the tonsils will be a little ragged but they aren't very bad, and frequently you ask the mother the question, "Have you had any rheumatism in your family? Has your husband had any in his family?" If you find there has been a history, I believe you lean a little bit more toward the action of removal of those organs than if they show no tendency toward the disease.

The active treatment of an individual, after he is once struck by this disease, has to be determined on several bases. There is certainly the physical and psychological treatment, and certainly a sociological treatment. When the physical alone is concerned, we may help that individual to a certain extent along his way; but if he isn't sociologically or psychologically adjusted, it has a great tendency to prevent physical well being. As such we should consider that individual a great deal more from those points.

It certainly makes a difference in the type of individual we have with rheumatic heart disease or potential heart disease. We have a chorea who develops a mild heart, a flair. I don't believe we think of that in the same light as the individual who has nodules, because the two are practically different diseases.

From that viewpoint I believe we must evaluate the possibilities of the infection in each individual who has it, and try to make his future as bright as possible.

When a nation goes to war, physical fitness of the young men of the country is a vital matter. Fortunately or unfortunately, fitness in our modern civilization, though desirable, is not so essential. Whether a man can chin himself seven times, or jump two feet, is not so important, but maintenance of good health is important. We can recollect many examples of individuals who would be rejected for military service but have been outstanding in business, the professions and the arts. These men and women have triumphed in spite of physical disabilities. Ed., Minn. Med., Dec. 1944.

"As we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours; and this we should do freely and generously."—*Benjamin Franklin.*

THE DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE FUNDUS UTERII

Herbert E. Schmitz, M.D., John F. Sheehan, M.D., and Janet E. Towne, M.D.
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Post menopausal bleeding has long been considered an alarming symptom by both physician and layman. Educational campaigns through the press, over the radio, and from the speakers' platform have impressed women with the fact that irregular bleeding may be indicative of carcinoma somewhere in the genital tract, and therefore should be investigated at once. The physician recognizing the importance of such a symptom insists on the necessary measures to help him arrive at a correct diagnosis. Adenocarcinoma of the uterine fundus may, however, be present before the menopause or without causing irregular menstrual bleeding.

Randall[1] in studying six hundred eighty-three women over forty years of age, whose main complaint was increased menstrual bleeding, found that one hundred sixty, or 23.4%, could be treated in the office for evident pathology. Two hundred eighty, or 41%, had to be sent to the hospital for surgery, the pathology being grossly appreciable. In 35.6%, or two hundred forty-three, there was apparently no gross pathology to account for the bleeding; therefore, hospitalization and curettage were advised as a means of establishing a diagnosis. A further study of the five hundred twenty-three women hospitalized revealed the cause of the bleeding to be fibromyomata in 48.4%; endometrial hyperplasia in 17.8%; polyps in 11.2%; miscellaneous non-malignant disease in 17.4%, and the incidence of malignancy in uterii without fibroids was 10.3%, or in the entire group the incidence of malignancy in the fundus was 5.3%. The author further states that "an effort was made to determine the incidence of early carcinoma of the fundus when women experiencing only increased bleeding are curetted at the time of the menopause. Adenocarcinoma of the uterus was found in 9.1% of one hundred sixty-five women with a grossly normal uterus curetted on account of menorrhagia at the menopause."

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These figures can impress us with but one fact, namely, that all women at or near the menopause and complaining of increased menstrual flow must be thoroughly examined so that those harboring early malignant disease may be adequately treated. In this way the survival rate in fundal carcinoma can be increased appreciably.

Hospitalization of all such cases for diagnostic curettage is impossible because of economic reasons or the optimism of some who are quite sure that in their case it is a familial characteristic to flow heavily at the time of the menopause. Hadn't they heard their mother speak of her flooding at this time of life, and she is still living free of the cancer. Papanicolaou and Traut[2] in their studies of vaginal smears offer us what may be the solution to our dilemma, an office procedure for diagnosing carcinoma in its early stages. In their own words, "It is only necessary to collect the exfoliated cells from the posterior vaginal fornix; spread them upon a clean glass slide, fix them in an alcohol and ether solution, stain them, and they are ready for study under the microscope." In their studies there were thirteen instances of adenocarcinoma revealed for the first time by the vaginal smear when no other clinical procedure had sufficed to make the diagnosis. They feel that the vaginal smear is the best of any single available method, and that as far as early carcinoma of the cervix and silent carcinoma of the fundus are concerned, it is far superior to biopsy. They continue, "However, in view of the fact that the method is subject to some fallacious deductions, and also because it will be a long time before any considerable number of microscopists can be trained to a degree of dependability in diagnosis, we recommend the use of the vaginal smear as an 'indicator method,' and the biopsy as the final step necessary to the making of the positive diagnosis."

Meigs[4] studied the vaginal smears from two hundred twenty women in an attempt to make the diagnosis of cancer. His conclusions are similar to those of Papanicolaou and Traut, but he emphasizes that a single negative smear is not sufficient to rule out carcinoma. In our own clinic we have not had sufficient experience to comment other than to say, it is a procedure which holds great promise and deserves careful study after familiarization with the technique.

Treatment. — Desiring to study the effect of Roentgen and Radium rays on adenocarcinoma of the uterus five cases were irradiated according to our technique, and then hysterectomized at various time intervals. The microscopic changes found in this study form the basis of the paper to be presented by the next speaker.

Technique of Irradiation. — All patients were curetted, and 100 mgms. of radium were placed in the uterine fundus by means of the Y applicator[5], which has been described elsewhere. The equal intensity curves have been plotted and the radium dose in roentgens given. The width of the uterine fundus has been determined, and the capsule opened as described in the original article. After 2000 mgm. hours the capsule is removed. On the eighth and sixteenth days this radium dose is repeated. Thus, a total dose of 6000 mgm. hours is delivered within the uterus. On the days that the radium is not in the uterus the patient receives x-ray therapy.

The factors used in the production of the roentgen ray are 800 Kilovolt maximum obtained from a double pulsating Villard current, a load of 10 Milliamperes on the x-ray tube, which is rendered gas free by oil vacuum pumps, a water-cooled tungsten target, a filter equivalent of 10 millimeters of copper, a focal skin distance of 70 or 86 cm., field sizes varying from 10 to 20 square cm., and a half value layer of 8.2 m.m. of copper, corresponding to an average wave length of 0.028 or a minimum wave length of 0.0128 Angstorm unit. The output of roentgens per minute measured with a thimble chamber is 36 roentgens without and 44 roentgens with backscatter. The dose attained at a depth of 10 cm. measured in a bakelite phantom is 56 percent of the surface intensity if the size of the entrance field is from 300 to 400 square cm. Whenever practicable the number of fields is two, namely pubic and sacral. If the patient had an antero-posterior diameter of 23 cm. or more, three or four fields were used. The amount of radiation required to produce a tolerance skin dose with 800 Kilovolt roentgen rays is 4000 roentgens if applied in ten fractions at forty-eight hour intervals. If two fields are used, the midpelvic dose is the same as that attained on the skin, or about 4000 roentgens at the lateral bony pelvic walls as well as in the midpelvis.

The rate of recovery of the tissues after each fractional dose has not been subtracted. The rate of recovery of the normal tissues in contradistinction to the abnormal ones is as yet not known. The dose attained within the pelvis after twenty-eight days was 4000 roentgens with backscatter.

Clinical Grouping. — The clinical grouping employed in our clinic is as follows:

Clinical Group I:

The cancer is clearly localized. There is no enlargement of the uterus, and it is freely movable.

Clinical Group II:

The cancer is still thought to be localized, although the uterus is slightly enlarged and its consistency altered. There is no change in its mobility.

Clinical Group III:

The size of the uterus is definitely increased. The consistency is firmer than normal. Subserrous nodes are felt plainly. The mobility of the uterus is decreased. The inguinal or hypogastric lymph nodes may be enlarged but are movable.

Clinical Group IV:

Comprises the totally carcinomatous uterus with invasion of the adjacent structures, especially the parametria and lymph nodes. There is fixation of the tumor mass and the metastases. This grouping is simplified from the one previously deported.[6]

TABLE 1

Case	Interval between Radiation and Operation	Operation	Laboratory Report
1.	Four Months	Vag. hysterectomy Bilat. S. & O.	No malig. tumor micros.
2.	Eight months	Total abd. hyst. Bilat. S. & O.	No malig. tumor micros.
3.	Four months	Vag. hysterectomy Bilat. S. & O.	No malig. tumor micros.
4.	Five months	Vag. hysterectomy Bilat. S. & O.	No malig. tumor micros.
5.	Three months	Total abd. hyst. Previous S. & O.	No malig. tumor micros.

Table 1 lists five cases treated according to the described technique, and gives the interval between radiation and operation. In each case a diagnosis of adenocarcinoma had been made microscopically from the curettings. All cases are still living free of disease, the youngest having survived twenty-eight months, and the oldest six years. These five uterii were sectioned longitudinally at right angles to the mucosal lining so that practically the entire lining of the cervix and of the body of the uterus was included in blocks varying in thickness from 3 to 5 m.m. The blocks in all of the five cases included the entire thickness of the wall of the cervix and wall of the body near the internal os. In two of the uterii, the entire thickness of the wall of the rest of the body was included in the appropriate blocks; in the other two only the internal 1.5 to 1.8 m.m. of the myometrium were included. The number of blocks obtained from any one of the uterii was not less than twenty-seven, nor more than thirty-five. One section was taken from the surface of each block; then each block was cut halfway through, then another section taken. Since the original blocks were 3.0 to 5.0 m.m. thick, the net result was sections of the lining of the uterus and of the adjacent tissues at 1.5 to 2.5 m.m. intervals, and the total number of microscopic slides prepared from any of these five uterii not less than fifty-four, nor more than seventy. The tissues were stained with hemotoxylin and eosin. No viable tumor was demonstrable in any of these uterii. A more detailed report of the gross and microscopic findings in these uterii will be given by the next speaker.

COMMENT

Two important deductions resulting from this study are, first, evidence to substantiate the importance of early diagnosis, and secondly, the finding that adenocarcinoma of the fundus, when confined to the endometrium or just beginning myometrial invasion, can be destroyed by irradiation properly applied. All of the cases reported in this study were in the first two clinical groups and could have been treated by surgical removal of the uterus with its appendages. Our purpose was to study the effect of irradiation in such cases and to determine eventually the value of pre-operative therapy or of x-ray and radium therapy alone. The first method prolongs the period of treatment by at least two months because surgery should never be attempted until all effects of x-ray or radium therapy have subsided. It was interesting to

find certain changes in the uterus still present after several months. If such an extensive procedure is to be advocated, then we must have very definite proof of its superiority over other methods. At present no such proof is available. The employment of such therapy in preference to surgery should be limited to cases refusing operation, or who, because of other pathology, cannot be considered good surgical risks. If, as time goes on, larger groups of cases are collected, and the same findings persist, then we may advise this method as strongly as we now recommend surgery.

CONCLUSIONS

Menorrhagia occurring in a woman forty years of age or over is an important symptom and demands thorough and immediate investigation.

Early diagnosis of adenocarcinoma of the uterine fundus is necessary to obtain good end results in the treatment of the disease.

The smear method of diagnosing early hidden carcinomas of the uterus holds great promise and should receive careful study and usage.

X-ray and radium therapy properly administered are capable of completely destroying early adenocarcinoma of the uterine fundus.

REFERENCES

1. Randall, C. L.: N. Y. State J. Med. 43: 1635-1638, Sept., 1943.
2. Traut, H. F. and Papanicolaou, G. N.: California and West. Med. 59: 121-122, August, 1943.
3. Idem.: Diagnosis of Uterine Cancer by Vaginal Smear. New York: Commonwealth Fund, 1943.
4. Meigs, J. V. et al: S., G. and O., V. 77: 449, 1943.
5. Schmitz, H. and Schmitz, H. E.: Am. J. Roentgenol. 34: 749, 1935.
6. Schmitz, H.: Am. J. Roentgenol. 7: 383, 1920.
7. Schmitz, H. E., Sheehan, J. F., and Towne, J. E.: Am. J. Obst. and Gyne. 45: 377-390, 1943.

DISCUSSION

Dr. Max Cutler, Chicago: These two papers are highly interesting and comprehensive and I congratulate the essayists on their careful study of the subject. I have always felt that we could not make any important progress in the radiotherapy of cancer unless we treated reasonably early cases and it is for this reason that these studies interest me particularly. Cancer of the uterus presents a unique opportunity in this respect because it enables us to test various radiotherapeutic methods and check the results after hysterectomy. I believe that at one time a special committee was appointed by the American College of Surgeons to study and recommend the best methods of treatment for cancer of the uterus. If I recall correctly, one of their main conclusions was that a combination of preoperative irradiation and hysterectomy offered the best chance of cure. One of the difficulties in these studies is to know to what extent the lesions are infiltrating and to what extent a given result may be due to the superficial nature of the lesion rather than the therapeutic method. Lesions that are comparatively radioresistant such as adenocarcinoma of the uterus generally respond to irradiation only when they are papillary. I agree that we are not yet justified in taking the position that irradiation should be used as the method of choice in carcinoma of the body of the uterus.

Dr. Herbert E. Schmitz, Chicago (closing): We consider an early lesion one in which there is no enlargement or change in shape or size of the uterus, or extremely slight change. I have nothing to add except to thank Dr. Cutler for his discussion.

VESICO VAGINAL FISTULA

Chester W. Trowbridge, M.D., F.A.C.S.
OAK PARK

One of the most distressing genito-urinary conditions, both to the patient and the surgeon is a communicating fistulas opening between the urinary bladder and vagina which results in incontinence of urine. Partial disability from this uncontrolled leakage of urine is but one of the problems, for not only does she soil her clothing, but the irritation from this leakage produces a vulvitis, dermatitis between the thighs and not infrequently vulvo-vaginitis. The patient suffers physically and mentally, probably because she has been ill advised and believes her condition incurable. Often this fact is enhanced by attempts at closure that have failed.

The causes of vesico vaginal fistula can be grouped under:

(1) Those due to trauma. Trauma resulting from birth injury, from the insertion of foreign bodies into the vagina, perforating the bladder, fracture of the pelvis with rupture of the bladder septum, the application of radium for the treatment of carcinoma of the uterus, and last but not least those resulting from pelvic surgery.

(2) Those due to infection, infection following pelvic operations, obstetrical practices, abscesses from pelvic peritonitis, etc.

(3) Those due to neoplasms, which invade the septum with a resulting urinary fistula.

The fistula which is acute and results from infection high up in the vagina may heal spontaneously, if an inlaying catheter is introduced into the bladder, through the urethra, permitting

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collapse and drainage of the bladder and the instigation of proper medical management. The fistula which results from trauma likewise may heal and a period of three to four months should be permitted to elapse before surgical intervention, not only to determine whether spontaneous healing will occur, but also to permit the reaction incident to the injury to subside.

The diagnosis of vesico vaginal fistula is comparatively easy. The onset of incontinence following any of the causative factors should be investigated to determine that the incontinence is not due to an incompetent urethra. This is best accomplished by, first a vaginal examination either by palpation of the actual opening, or finding a point of irregularity, and second, by the introduction of a speculum, drying the vagina, the injection of indigo carmen or some similar agent into the bladder with the subsequent appearance of this dye in the vagina, quite definitely establishes the presence of vesico vaginal fistula and shows its location.

Cystoscopic examination should be a routine part of this procedure. Primarily to determine the relation of the fistulous opening to that of the ureters.

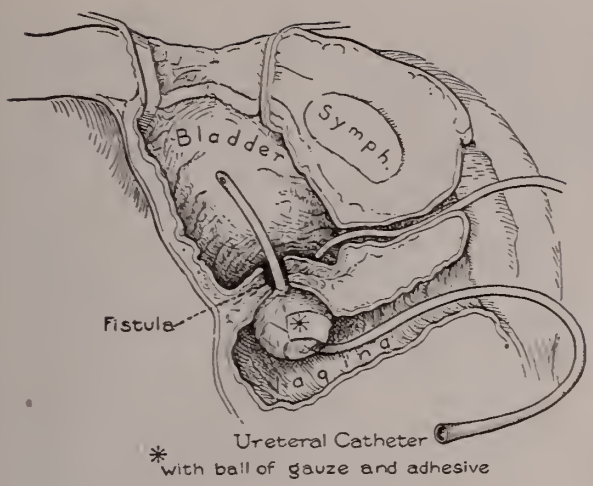
Three operative approaches are available in the treatment of vesico vaginal fistula, the vaginal. the intravesical and the abdominal. Approximately 90 percent of the patients with vesico vaginal fistula can be successfully treated by the classic vaginal operation so successfully established by J. Marion Simms, and in the very small vesico vaginal fistulas, intravesicular cauterization of the opening followed by an inlaying cathcter, rest in bed, proper attention paid to keeping the urinc acid and free of bacteria, will very often affect a closure without the more difficult vaginal or suprapubic approach.

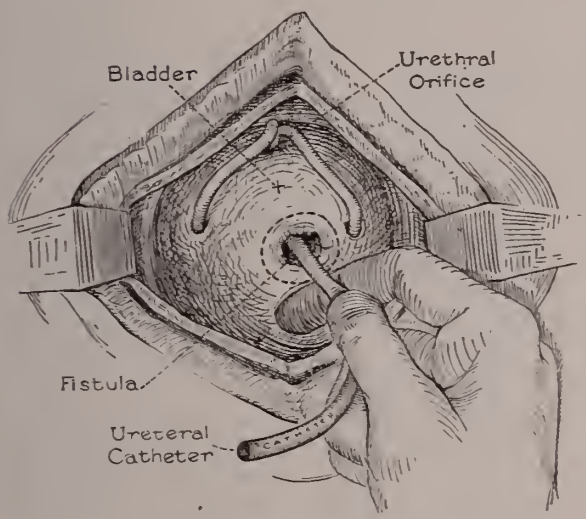
The operation I am illustrating was successfully carried out in two cases of vesico vaginal fistula located high in the vaginal vault and close to the right ureter. Both cases were inaccessible for the vaginal repair method, due to the fact that they had followed total hysterectomy and were incorporated in the scar high in the vagina. Also due to the fact that their close proximity to the ureter added another hazard even if the scar could have becn dissected free vaginally. Several attempts were made at closure through the cystoscopc, both by fulgration and zinc ionization, but a granulating wound could not be produced in the scar tissue, so the following surgical procedure was successfully carried out.

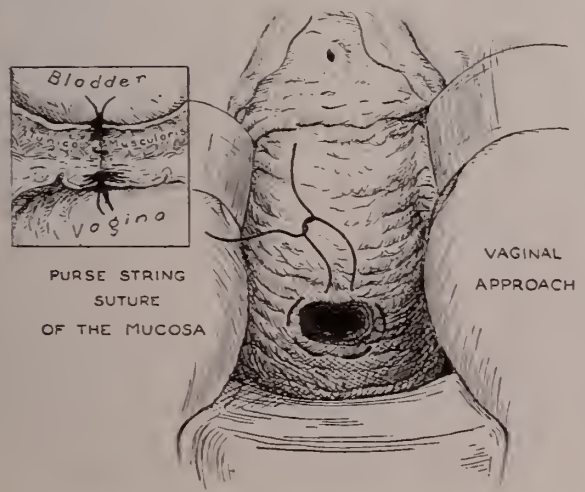
Both patients were parallel cases, so I will speak in the singular.

The patient was hospitalized three days prior to opcration. An inlaying catheter was introduced through the urethra establishing drainage. Vaginal douches of one to 5000 bichloride of mercury were given twice daily. Particular attention was paid to the blood chemistry and to the fluid intake and output. At the end of three days, the patient was considered ready for operation, and received, in the operating room, both vaginal, abdominal and thigh preparation. This preparation consisted of shaving, green soap and water, alcohol, ether, and the entire area including the vagina painted with Ziphrin. With this preparation, one could work either in the vagina or through the suprapubic wound with relative safety. A spinal anaesthesia of pontocaine was used.

A ureteral catheter, which had incorporated around it, laycrs of gauze and adhesive, forming a ball the size of a small lime, at a point some six or eight inches from its tip, was introduced through the vagina into the fistula and held in place by a vaginal pack. Catheters were then inserted into each ureter and due to the fact that the bladder could not be inflated with fluid, a thirty cc Foley was inserted into the bladder and filled. This permitted a safe suprapubic approach. The bladder was opened by the usual suprapubic route, the Foley catheter removed, and the end of the ureteral catheter which had been inserted into the vesico vaginal fistula through the vagina, picked up. By applying traction on this catheter, the entire floor of the bladder could be elevated and made accessible. A circular incision was made around the vesico vaginal fistula well away from all scar tissue and the mucosa of the bladder undermined for one or more centimeters. The incision was then carried deeper into the vagina itself and the entire fistulas tract, together with the scar tissue was removed. A purse string suture of 40 day oo chromic on an atraumatic needle inverted the vaginal mucosa after the catheter had been removed. The muscularis was further reinforced by interrupted sutures of the same material and







a purse string suture everted the bladder mucosa. The bladder and abdominal wall was closed with heavy black silk after first establishing bladder drainage with a large rubber tube. The ureteral catheters were removed and an inlaying catheter inserted through the urethra.

The post-operative treatment consisted in keeping the patient on her abdomen for one week, fifteen grains of sulfathiazole were given every four hours for five days, this being followed by fifteen grains of ammonium chloride three times daily. Fluids were pushed and during the first 24 hours, 3000 cc of five percent glucose in normal saline was given intravenously. The bladder was irrigated with sterile water four times daily until all clots had disappeared. At the end of ten days, the patient had resumed position on her back, the suprapubic drain was removed. Six weeks after this the suprapubic wound was closed. The inlaying catheter was allowed to remain another five days, at the end of which time patient voided normally and was discharged.

Credit is given C. O. Miller of Chicago for his suggestions and help in the first case of this series.

DISCUSSION

Dr. Victor D. Lespinasse, Chicago: First, I want to congratulate Dr. Trowbridge on his ingenuity and his use of all the various tricks, etc. that a good surgeon should have at his disposal; secondly, there is one little criticism that seemed to me to be in order, i.e., according to my ideas the use of sulfa drugs and ammonium chloride do not go together. The ammonium chloride tends to acidify the urine, and acid urine is *verboten* as far as sulfa drugs in urinary infections are concerned. That is a point that I think should be emphasized. In this instance, apparently, it did no damage but in the general run of cases you should keep your urine alkaline while using sulfa drugs.

Alkaline urine, of course, is not conducive to good healing or good repair in the bladder. Particularly if you have some sutures projecting into the bladder or small bits of necrotic tissue free in the bladder, they act as foci for the incrustation of calcium phosphate and carbonate crystals with subsequent foreign body reactions and trouble. So it is a dilemma that you need to meet and whichever way you meet it it is all right if you can get away with it, but ordinarily we like to keep our urine acid and depend on the acidity to achieve our bacterial stasis rather than the sulfa drug, and run the acid way up high with ammonium chloride and with mendelic acid, and maybe give

a little urotropin because urotropin is a drug that works best in acid urine; in fact, you must have an acid urine for it to break up and be efficient.

The whole subject of vesicovaginal fistulas is a very, very interesting one to me and one that I have given a good deal of attention to in the past years and it is hard to generalize about them. Each case is a little bit different, each case needs to be particularized. A few of the procedures that can be used and a citing of a few particular cases might be of some interest.

The first one I would like to cite is a case similar to the ones that Dr. Trowbridge reported. It followed a vaginal hysterectomy but it was not a simple vesicovaginal fistula: it was a vesicovaginal fistula and an ureterovaginal fistula. That was a problem. You had two openings in the vagina, one from the ureter and one from the bladder, and there were probably two centimeters between the two openings. As you know, the implantation of the ureter in the bladder is a highly technical operation and one that has a definite risk and chance of failure connected with it, whereas the operation of the vesicovaginal fistula is much simpler. In that particular instance we made a flap from the vaginal mucosa, including the false ureteral orifice in the vagina, and turned that into the bladder and made a little sac of the bladder that was lined with vaginal epithelium and in that way we made a relatively simple operation suffice instead of a relatively complicated one.

This particular procedure would not be applicable unless your ureteral fistula was of sufficient size to maintain the normal drainage from that kidney. Most of them, unfortunately, are not: the ureteral fistula tends to be too small to take care of normal drainage and tends to develop a hydronephrosis. But if hydronephrosis is present this particular procedure is not applicable and one should do a ureteral implantation into the bladder.

Now the question of operating above or below, intraperitoneally, extraperitoneally, those must all be decided by the individual surgeon and what his training has been and how much of a gadgeteer he is. Many of these cases are much better handled suprapubically as Dr. Trowbridge did. Others can be done vaginally.

This little trick of using the ball is a very good one to raise the floor of the bladder so you can get at it and place your sutures easily. The same thing in reverse has been used by many surgeons to exteriorize the bladder through the vagina using a sound.

The surgical procedure with the vesico-vaginal fistula depends a great deal upon the etiology of the fistula. Today the common type of fistula with which we deal is surgical and postradium; in other words, malignant. In the original work on vesico-vaginal fistulas, they were almost all of them obstetrical. Our obstetrical diagnoses are very, very much better than they used to be and the obstetric vesicovaginal fistulas are today rather rare, but the surgical fistulas are on the increase and radium fistulas are also on the increase. The radium fistulas are most often developed on the bladder floor. Their appearance is not necessarily a criticism against the use of radium, in fact, it is a dilemma — you have an involvement of the cervix, an involvement of the vesical wall, an extension into the vesical wall. What are you going to do? You are going to use enough radium to destroy the cervix and also the floor of the bladder and you know you are going to have a fistula. According to my ideas, you should use that amount of radium and destroy that bladder floor. After it is destroyed and your carcinoma is cured, then repair the bladder fistula. Because of the nutrition of the flaps it is a much more difficult procedure than repairing a fistula following a surgical operation.

Dr. Trowbridge (closing): May I quote from my paper: "The post-operative treatment consisted in keeping the patient on her abdomen for one week, fifteen grains of sulfathiazole were given every four hours for five days." That was discontinued and when the blood level showed no sulfathiazole I acidulated the urine by giving the patient fifteen grains of ammonium chloride three times a day.

MALIGNANT CARCINOID (ARGENTAFFINOMA) OF THE ILEUM WITH WIDESPREAD METASTASES

JOSEPH A. TUTA, Ph.D., M.D.
CHICAGO

In recent years carcinoid or argentaffin tumors of the gastro-intestinal tract have received increasing attention. Important summaries of the literature have been made in papers by Forbus[6], Cooke[4], Raiford[13], Bailey[2], Humphreys[7], Wyatt[14] and Ariel[1].

This type of tumor is seen most frequently involving the tip of the appendix. They are lemon yellow tumors which may give rise to symptoms of appendicitis. Porter and Whelan[21] found 72 carcinoids in 26.384 surgically removed appendices in a review of the material of the Boston City Hospital from 1910 to 1937. None of the cases were malignant. Wyatt[14] in a review of the literature found only 5 cases where extension beyond the appendix had occurred. Mörl, quoted by Ariel[1], believes that the reason metastases are so rare from appendiceal carcinoids is that they give symptoms relatively early in life and are removed before they have a chance to extend beyond the appendix.

Carcinoids of the small intestine are found much less frequently than in the appendix. They involve the lower ileum most commonly.

From the Grant Hospital of Chicago and the Department of Pathology, University of Illinois School of Medicine.

Thirty per cent of carcinoids of the small intestine are multiple according to Humphreys[7] and Ariel[1] states that the average age at which they are found is 57½ years. He recently reviewed the literature and found 237 cases including 11 of his own of which approximately 25% had metastases chiefly to the adjacent mesentery. Wyatt[14] tabulated 36 malignant carcinoids of the gastro-intestinal tract. Ragins and Shively[12] state that in 11,000 autopsies performed at the Cook County Hospital covering the period from 1929 to May 1938, one malignant carcinoid or argentaffinoma of the small intestine was recorded.

The most common symptoms are those of intestinal obstruction or vague gastro-intestinal complaints, intermittent diarrhea being observed in a number of cases. In a considerable number of cases, as emphasized by Raiford[13] and Mallory in a Cabot case report[8], the primary tumor may consist of only a small placque or nodule in the intestinal wall which causes little or no obstruction. A much larger mesenteric metastasis may serve as the center for the development of adhesions or a volvulus.

The treatment consists of resection of the intestinal tumor and the mesenteric metastases which may be much larger than the primary tumor. Ariel[1] suggests that roentgen therapy may possibly be of value in recurrences.

This case is reported with the permission of Dr. J. E. Seibel.

CASE HISTORY

The patient was a white female age 64. She had gradually lost weight over a period of 1 year. The appendix had been removed 25 years before. Intermittent diarrhea had been present for 2 months. No blood was found in the stools. Fluid was present in the abdominal cavity. On abdominal palpation liver nodules were felt. An examination of the uterus was made and about 50 cc. of serosanguinous fluid was found in the body of the uterus. Radium was inserted into the uterus. The patient became gradually weaker and the abdomen more distended. She expired 7 weeks after admission to the hospital.

Autopsy Findings — The peritoneal cavity contained 3 liters of clear straw colored fluid. At the root of the mesentery there was a hard oval mass measuring 4.0 x 3.0 x 2.5 cm. around which several loops of the lower ileum were twisted and adherent. The surrounding mesentery contained numerous metastatic nodules. A disc-like placque 1.5 x 1.0 x 1.0 cm. was present in the wall of one of the loops of ileum which was adherent to the large mesenteric metastasis. The overlying mucosa was wrinkled but not ulcerated. There were large metastases involving the peri-aortic, peri-pancreatic and posterior mediastinal lymph nodes, liver and pancreas. One 8 mm. metastatic nodule was present in the interventicular septum of the heart.

Microscopic examination shows the structure of the tumor tissue to consist of sheets and cords of round and polygonal cells with relatively scanty cytoplasm. The most outstanding feature is the large number of small cavities or rosettes which are surrounded by columnar cells. Using the Heidenhain iron hematoxylin and Mallory's phosphotungstic and hematoxylin stains, small structures resembling blepharoplasten are seen near the margins of some of the cells bordering the cavities. In the centers of some of the rosettes are accumulations of homogenous material. In some areas pseudo-rosettes are formed with a central blood vessel and connective tissue shown best with Mallory's phosphotungstic acid hematoxylin stain. The mesenteric node shows a thick capsule of connective tissue. The metastasis in the heart shows only a few rosettes chiefly at the periphery.

DISCUSSION

The subject of carcinoid tumors of the intestine has been a matter of controversy for some years. The chrom-argentaffin cells found in the crypts of Lieberkühn in the intestinal mucosa are generally conceded to be the source of the tumor cells. Masson[9] has made extensive studies showing a relationship between the argentaffin cells of the mucosa and non-medullated nerve fibers in the sub-mucosa into which the argentaffin cells migrate and at times develop into carcinoid tumors. Danisch[5] concluded however that the argentaffin cells instead of originating in the mucosa arose in the celiac ganglion of the sympathetic system and migrated towards the submucosa and mucosa. Recently Popoff[10] through the aid of new staining methods in experimental studies has concluded that the epithelial argentaffin cells are never found migrating through the basement membrane and considers any extra-glandular argentaffin cells as being mesenchymal or ectodermal, and not migrating entodermal cells.

Masson[9] and Bielshowsky[3] have suggested the possibility that the argentaffin cells in the intestinal mucosa may constitute a neurent-oderm or entodermic placode, analagous to the olfactory placode in which specialized neural cells arise within the epithelium of the olfactory mucosa.

The conflicting evidence offered by the investigators in this field indicates that the problem of the argentaffin cells, particularly whether

they are entodermal or ectodermal in origin, is not settled. The structure of the tumor particularly the true rosette formations, suggests that there may be some relationship to the embryonic neuro-epithelium.

SUMMARY

A case of a malignant carcinoid (argentaffinoma) of the lower ileum with widespread metastases to the adjacent mesentery, periaortic, peri-pancreatic and posterior mediastinal lymph nodes, liver, pancreas, and heart is reported. About 50 malignant carcinoids of the small intestine have been reported in the literature, but only a few of them have had widespread metastases. In this case, the intestinal symptoms were caused by the lower ileum twisting around and adhering to a large metastasis in the root of the mesentery. Intermittent diarrhea without blood in the stool was a prominent symptom.

REFERENCES

1. Ariel, I. M.: Argentaffin (Carcinoid) tumors of the small intestine, Report of 11 cases and review of the literature, Arch. Path. 27: 25, 1939.
2. Bailey, O. T.: Argentaffinomas of the gastro-intestinal tract, benign and malignant, Arch. Path. 18: 843, 1934.
3. Bielshowsky, M.: Cytology and cellular pathology of the nervous system, P. Hoeber, New York, 1932, Vol. 3, p. 1127.
4. Cooke, H. H.: Carcinoid tumors of the small intestine, Arch. Surg. 22: 568, 1931.
5. Danisch, F.: Zur histogenese der sogenonnten appendix karzinoide. Beitr. z. Path. Anat. u.z. allg. Path., 72: 687, 1924.
6. Forbus, W. D.: Argentaffine tumors of the appendix and small intestine, Bull. Johns Hopkins Hosp. 37: 130, 1925.
7. Humphreys, E. M.: Carcinoid tumors of the small intestine: A report of 3 cases with metastases, Am. J. Cancer, 22 No. 4: 765, 1934.
8. Mallory, T. B.: Cabot case report No. 26162, New Eng. J. Med., 222 No. 16: 1940.
9. Masson, P.: Carcinoids (argentaffin-cell tumors) and nerve hyperplasia of the appendicular mucosa, Am. J. Path. 4: 181, 1928.
10. Popoff, N. W.: Epithelial functional rejuvenation observed in the mucous cells of the gastro-intestinal tract and the parietal cells of the stomach, Arch. Path. 27: 841, 1939.
11. Porter, J. E. and Whelan, C. S.: Argentaffine tumors, Am. J. Cancer, 36: 343, 1939.
12. Ragins, A. B. and Shively, F. L.: Sarcomas of the small intestine, Am. J. Surg. 47: 96, 1940.
13. Raiford, T. S.: Carcinoid tumors of the gastro-intestinal tract, Am. J. Cancer 18: 803, 1933.
14. Wyatt, T. E.: Argentaffine tumors of the gastro-intestinal tract, Annals Surg. 107: 260, 1938.

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INVESTIGATORS REPORT A METHOD OF GIVING PENICILLIN BY MOUTH

Studies Indicate When Given Simultaneously With Trisodium Citrate Orally The Drug Was Effective Against Gonorrhea

Trisodium citrate, a sodium salt formed from citric acid, has been found effective in the administration of penicillin by mouth when given simultaneously with the drug, according to studies reported by Paul György, M.D., H. N. Vandegrift, M.D., William Elias, Ph.D., and L. G. Colio, B.A., of Philadelphia; F. M. Barry, M.D., and J. D. Pilcher, M.D., of Cleveland, in *The Journal of the American Medical Association* for March 17.

Penicillin is sensitive to acid and alkaline reaction and is easily destroyed by the gastric juices of the stomach. It is for this reason that the difficult administration by injection into a muscle or vein is necessary. Where penicillin is taken by mouth, trisodium citrate acts as a buffer. This maintains a balance between the acid and base concentration, thus protecting the penicillin from chemical destruction and aiding its absorption in the gastrointestinal tract. The rate and degree of absorption can be measured by the appearance of penicillin in the blood and the amount of penicillin excreted through the kidneys into the urine.

"Trisodium citrate," the investigators report, "was found by Charney, Alburn and Bernhart to be a suitable buffer with the proper buffering range. . . . Administration of . . . trisodium citrate . . . and . . . penicillin by mouth given two hours after breakfast resulted in appreciable increase of the urinary excretion of penicillin when compared with control experiments in which no buffer was used. The figures for urinary excretion of penicillin given by mouth on a fasting stomach were only slightly increased by the simultaneous administration of buffer and were higher than in the experiments in which penicillin was given after breakfast. . . .

"Figures of urinary excretion of penicillin are not an accurate yardstick of the therapeutic effect penicillin might exert while passing through the body. On the other hand, the fact that penicillin given by mouth appears in the urine

(*Continued on page* 205)

Physical Medicine Abstracts

John S. Coulter, M.D.

TRENCH FOOT

Report of 351 Cases

Major Joseph C. Edwards,
Medical Corps, Army of the United States
Captain Morris A. Shapiro,
Medical Corps, Army of the United States and
Captain Jennings B. Ruffin,
Medical Corps, Army of the United States

In THE BULLETIN OF THE U.S. ARMY MEDICAL DEPARTMENT, 83;63
December, 1944

The first principle in the treatment of trench foot is to rest in a cool place, keeping the body comfortably warm and clean. This is done by daily washing with 70° F. soapy water, gentle drying of the feet, and either cooling the surface of the feet by air currents from a fan or by exposing them to room temperature not exceeding 70° F. This and absolute bed rest promote vasoconstriction and decrease local metabolic requirements. The body should be warm with enough blankets to make the patient comfortable. As soon as the acute pain has passed, the patient is started on passive vascular exercises. He elevates his feet at an angle of 45 degrees on a board or chair for two and later five minutes; keeps legs horizontal for five minutes; then sits with his feet over the edge of the bed for two and later three minutes, followed by resumption of the horizontal state. This is repeated three to four times daily during the next week or so while the patient is at bed rest. This, with calisthenics in bed each morning conducted by the ward master, helps keep these patients in good physical condition. Cool water soaks and whirlpool baths at 70° F. for twenty to thirty minutes daily help temporarily. Whether or not they shorten the recovery period was not established. Not all patients could stand the cold water. Some found it relieved the aches and pains during the time the feet were in the water. Those with painful, swollen, warm feet usually did obtain relief. It is used empirically and those who obtained relief were allowed to continue the treatment. Cooling the feet at bedtime would enable many to get to sleep without sedatives or analgesics.

All patients were reassured as to their eventual recovery. Lectures were given on the proper care of the feet. Undue exposure when not absolutely necessary was stressed. As soon as they were able, they were out of bed part of each day. From two to seven days later, depending on the severity of the condition, they were allowed to go to the mess hall outside the ward. It is important to realize that most of these patients, on walking, have aches and pains in the muscles and metatarsophalangeal joints for several weeks after the feet appear normal. After they cease to have pain during ordinary walking, many overcome slight aches after hikes by persisting in walking even though the feet ache for the first few days.

Occupational therapy, reading, writing, games, and entertainment for bed patients, and outdoor exercise for the ambulatory, are essential. When they are safely ambulatory, their attendance is required at daily organized hikes, which are gradually increased in length compatible with the patients' condition. As soon as they are able to walk 3 to 5 miles without undue trouble, they are ready for duty.

MUSCLE INJURY IN INDUSTRY; THE IMPORTANCE OF PHYSICAL MEDICINE

Sir Morton Smart, K.C.V.O., D.S.O., M.D.
Manipulative Surgeon to H.M. the King;
Consultant in Physical Medicine to the Royal Air Force

In THE BRITISH JOURNAL OF PHYSICAL MEDICINE AND INDUSTRIAL HYGIENE, 8;1;8 January-February, 1945

In the post-war planning of the medical treatment of the industrial worker there is no field of activity with greater scope for improvement in the technique of treatment than that of manipulative surgery and of methods designed to maintain the physiological activity of muscles at its maximum efficiency.

Joint disability and much crippling are the inevitable result of adhesions and of wasting of muscles, which are themselves the direct consequence of inflammation in joints from injury and other causes. It is not too much to say that if more regard were paid to the prevention of adhesions and of muscle wasting after even minor injuries, in relation to treatment — particularly to treatment in the early stages — much pain and crippling would be prevented or at least mitigated.

Adhesion formation and muscular wasting, which are so constantly a serious sequel to strains and sprains of all degrees of severity, can be reduced to a minimum if such patients are treated with the end in view of maintaining the physiological activity of the muscles at its maximum during the process of tissue repair. This can be accomplished with certainty by means of a special technique of graduated muscular contractions initiated as soon after the injury as possible. Such treatment has passed from the transitional stage and has a well defined physiological basis. For its efficient administration it requires a sound knowledge of the fundamental principles of muscle action, whether voluntary or initiated by electrical stimulation.

Early treatment of all diseases and injuries, by whatever method adopted, must be conceded to be of immense importance, but in no class of case is this so true as in those which would benefit from treatment designed to prevent adhesions and the loss of muscle function.

It is a remarkable fact — and one that does not appear to be stressed as it should be — that many joints which are functionally inefficient for a long time after even a minor injury are proved, when competently examined, to owe their disability to simple mechanical instability caused by atonic and wasted muscles and periarticular adhesions. When such muscles are restored to full function by treatment with graduated contractions and the adhesions are freed by manipulation, all crippling symptoms rapidly disappear.

Sprains and fracture-sprains of the ankle joint are notoriously resistant to quick recovery and it is well known how often they result in long periods of disability. Disability is caused by persistent oedema, pain on use, limitation of movement owing to adhesions and a general feeling of stiffness, particularly on commencement of movements after the joint has been at rest. I contend that if such a joint is skillfully treated as soon after an injury as possible by the technique of graduated musclar contractions, such sequelae should never occur, and I emphasize again that the secret of success is the correct application of the method as early after injury as possible.

It can hardly be denied by those in a position to judge that by far the most of what may be described as minor injuries are most inadequately treated, perhaps mainly because of the lack of proper facilities. In consequence, what is generally considered to be a slight injury at the time of its occurrence ends in quite unnecessary pain and crippling and in interference with efficient work for long periods. Neglect of early treatment leads to serious loss of man-hours in the industrial world, because in the later stages, when more serious tissue changes have taken place, such as atonicity and wasting of muscles and adhesions, treatment in order to restore function involves much greater loss of time and absence from work.

If we advocate the treatment of muscles by an electrical method, which produces contractions that are exactly controlled in (1) the degree of each contraction, (2) the rate of contractions in a given time and (3) the completeness of relaxation before the next contraction, it is with no desire to suggest such procedure as a substitute for voluntary movements. The stage at which the patient should participate by voluntary action is well recognized, is encouraged when the right moment arrives and it is then carried on pari passu with the treatment.

THE CONSERVATIVE TREATMENT OF THROMBO-ANGITIS OBLITERANS AND ARTERIOSCLEROSIS

Paul S. Lowenstein, M.D., St. Louis, Missouri
In SOUTHERN MEDICAL JOURNAL, 38;1;48
January, 1945

Rest. — The fundamental importance of adequate rest is seldom more exemplified than in the treatment of occlusive vascular disease. Rest may vary from partial restriction of activity to the complete stay in bed required in the presence of active inflammatory processes or the severe, incapacitating pain of incipient gangrene.

The position of the limb during this period must also be emphasized. In general, it should be such that the arterial flow is aided, but the venous and lymphatic returns are not impeded.

Of more recent development is the intermittent venous occlusion (rhythmic constrictor) it possesses certain unquestionable advantages. If the pressure in the cuff is kept well below the diastolic pressure, pain is rarely produced in properly selected cases. The cuff is easily adjusted and the treatment may be taken at home which renders it more popular with the average patient.

REHABILITATION OF THE INDUSTRIAL CASUALTY

Alexander P. Aitken, M.D., Boston
In ARCHIVES OF PHYSICAL MEDICINE,
26;1;27
January, 1945

The all important factor in the treatment of any traumatic lesion is the element of time.

It must be remembered that nature heals all injuries, regardless of the tissue involved, by scar tissue. Consequently, when an injury has involved skin, fat, muscles, tendons, nerves and bones, as in compound fractures, all the structures become healed in a mass of scar tissue. Adhesions thus are formed between all these structures and interfere with their free play. With time, scar tissue contracts and becomes more and more dense and less and less elastic. Consequently, unless such adhesions are broken or stretched by early motion, they may become so dense and tight that normal function may never be regained. The importance of early motion can thus be seen.

When any part is immobilized in apparatus two other important changes occur. First, there is a gradual loss of joint motion.

The second condition is the development of muscle atrophy.

When a patient with an acute condition is admitted to the center, he is first sent to the physical therapy department. Here baking, massage and graduated exercises are given until sufficient strength and motion have returned to permit of some occupational therapy. Such treatments are carried out after the patient has started his work therapy if necessary. As the work tolerance is built up the physical therapy is cut down, while the work therapy is increased. Our physical therapy department is quite complete, and almost any form of physical therapy can be administered. Shoulder wheels, stall bars, resistance bicycles, pulleys and weights and a rowing machine are available for special exercises.

On admission to the occupational therapy department the patient is given actual work to do. The work is always done with the aim of increasing the strength and range of motion of the injured part.

PENICILLIN BY MOUTH (Continued)

proves that it is absorbed from the gastrointestinal tract.

"Gonorrhea offered the best approach for the therapeutic evaluation of penicillin when given by mouth. The rapid cure of gonorrhea by injected penicillin gave a reliable basis of comparison. If it is effective at all, rapid therapeutic effects would be expected after oral administration of penicillin. Even an unsuccessful attempt would cause no significant delay or harm and could be quickly followed by well established therapeutic procedures."

They report that the majority of the cases of gonorrhea in this study were resistant to treatment by the sulfonamides. "In all these cases," they say "cure was achieved in one to three days and with doses of penicillin which appear to be comparable to, and not out of line with, the customary doses of penicillin when given by injection. It appears, therefore, that penicillin, at least in combination with a buffer such as sodium citrate, is an effective therapeutic agent against gonorrhea, even when given by mouth."

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

SKIN ABSORPTION OF TRI-*ORTHO*-CRESYL PHOSPHATE AS SHOWN BY RADIO-ACTIVE PHOSPHORUS[1]

An attempt was made to estimate the amount of tri-*ortho*-cresyl phosphate that can be absorbed through unbroken skin, and how rapidly the absorption occurs. Tri-*ortho*-cresyl phosphate containing radio-active phosphorus was used and the absorption measured in two human subjects and one dog. The human subjects applied 0.22 g. and 0.11 g. of the tri-*ortho*-cresyl phosphate with radio-activity of 395,000 counts/mm./0.1 g. The first had thirteen micrograms of tri-*ortho*-cresyl phosphate per 100 c.c. of blood at the end of one hour, and he excreted seven micrograms in the urine in the first hour, and continued at 35 micrograms an hour for the next 24 hours. He excreted 797 micrograms or 0.36 per cent. of the amount applied. The second had four micrograms per 100 c.c. of blood at the end of one hour, and excreted 143 micrograms or 0.13 per cent. of the amount applied.

2.094 g. of tri-*ortho*-cresyl phosphate was applied to the abdomen of a bitch and the blood level quickly established itself at 8 micrograms/100 c.c. and maintained this for 24 hours. The urinary excretion began equally promptly, being 44 micrograms in the first hour rising after seven hours to a maximum of 1312 micrograms. The tri-*ortho*-cresyl phosphate was distributed in the various tissues of the dog 24 hours after its application to the abdominal surface. The retentions were in the following order: visceral organs, muscle, brain, bone.

The authors consider that the magnitude of absorption of tri-*ortho*-cresyl phosphate through human skin is such that a real hazard exists in industrial operations permitting a considerable or repeated exposure to this compound. A safe industrial hygiene control requires that measures be taken to prevent such skin contact, and that all workmen exposed to the compound be instructed as to the hazard and the necessity for preventing skin contamination. K.M.A.P.

1. Hodge, H. C. and Sterner, J. H. J. Pharm. Exper. Therap., 1943, 79. Abstracted by British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

POSTGRADUATE EDUCATION IN INDUSTRIAL HEALTH AND HYGIENE[2]

In Canada the industrial hygienist has found scope for his activities chiefly in provincial and Federal Government organizations. In the future it is certain that the larger industries will employ full-time hygienists as part of an industrial health programme. With this movement has come the general desire that full-time and part-time physicians in industry shall become conversant with the field of industrial hygiene. Short courses in industrial hygiene have been offered by McGill and Toronto Universities, and the response from the profession indicates that this type of tuition is considered to be of real value. Long courses have been given as adjuncts to courses in public health, but the diploma or degree granted gives no indication of the specialization.

In setting up a course in industrial hygiene in the Faculty of Medicine, University of Toronto, it was thought inadvisable to increase the time spent in industrial work at the expense

2. Solandt, D. Y. Canad. Med. Ass. J., 1944, 50, 63. Abstracted by "British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

of other subjects in the D.P.H. course. For this reason a Diploma in Industrial Hygiene (D.I.H.) was created. The diploma course occupies one acdemic year (eight months' didactic and laboratory work and three months' field work) and is open to any graduate of an approved medical school. Graduates holding an acceptable post-graduate qualification in public health may make application for exemption from the latter half (four months) of the didactic and laboratory work. Fieldwork credit is given for industrial experience gained prior to taking the course. It is hoped that in the future a course may be open to university graduates not holding a medical degree.

The subjects covered in the complete course are bacteriology and immunology, epidemiology and biometrics, physiological and industrial hygiene, nutrition, toxicology, public health chemistry, public health administration and education, sanitation and pertinent material in the fields of medicine and surgery. The Diploma in Industrial Hygiene thus offered by the University of Toronto is, so far as is known, the only specific recognition of postgraduate work in the field of industrial hygiene or industrial health which has ever been or is at present available to those requiring special instruction in this field.

Short courses are invaluable where time cannot be spared for more complete training. The long course described and being offered at the University of Toronto represents a serious attempt to aid the Canadian medical profession in its task of supplying trained men to industry and to Government bodies responsible for advising industry in matters pertaining to health. It is hoped that immediate beneficial results may ensue, although the press of activity in a nation at war will certainly limit the extent of such an educational programme. Full development in the field of industrial health and hygiene will probably not be attained until the period of social expansion which will inevitably follow the peace. Steps towards this goal are fortunately compatible both with a vigorous pursuit of the war-effort and with intelligent planning for a post-war world. R.S.F.S.

TOXIC ANAEMIA[3]

Toxic anaemia was made a notifiable disease in the early part of 1942 so that the Factory Department could obtain all the information possible on the effects on the haematopoietic system of the variety of chemical substances now being increasingly used in industry. In industrial medical practice it can be regarded as a dyshaematopoietic anaemia rising in an individual who has been exposed to some substance known to exert, or suspected of exerting, an injurious effect on blood-forming organs.

Examples of haematological examinations of workers exposed to known and suspected toxic agents are given. The blood picture of benzol poisoning reported by early workers was a leucopenia. Lately more attention has been focused on the significance of a relative lymphocytosis unaccompanied by leucopenia. Examples of the latter are shown in a group of workers mixing and spreading a paint containing 40 per cent. benzol.

DIABETES AND INJURY[4]

The author's opinions are based on experiences with diabetic cases lasting over a period of twenty years. He believes that diabetics can be employed in industry provided certain safeguards are adopted, but uncontrolled diabetics are a menace to themselves and others. Some moderate, and all severe diabetics, should avoid heavy types of labour, hazardous jobs, and elevated positions. As regards the question of diabetes being aggravated by trauma, the author points out that if a diabetic, who has his disease under control, is rendered completely inactive by an injury such as a fractured leg, a considerable part of his sugar-burning mechanism is put out of action. Unless the diet is modified there will be more sugar in the urine and blood, and the diabetes may get out of control. In cases of thyroid disease, an injury may increase the severity of the diabetes owing to the increase of metabolism by the hyperthyroid state. The author considers that infections bear no causal relationship to diabetes, but they are potent factors in making an existing diabetes worse. The sulphonamide drugs have no deleterious effect

3. Browning, Ethel. J. Industr. Hyg., 1943, 25, 124. Abstracted by "British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

4. Bishop, William A. Journ. Industr. Hyg., 1944, 26, 55. Abstracted by "British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

on diabetes, and are as potent in the control of infection as in non-diabetics. Inhalation anaesthesia may be followed by glycosuria, but there is no good evidence that it causes diabetes or makes an existing diabetes worse. H.M.V.

EFFECT OF WET GARMENTS ON BODY WEIGHT LOSS AT HIGH ENVIRONMENTAL TEMPERATURES[5]

The practice of wearing wet clothing by workmen in hot situations such as furnace rooms has been employed for a long time. In order to investigate the limiting environmental conditions under which this procedure is effective, eleven subjects, aged 18 to 25, were employed. They usually wore long-sleeved, long-legged underwear which, when wetted, took up 1250 g. of water. The subjects either rested, sitting down, or worked by stepping up and down 17-18 times a minute on a box 5½ inches high. Experimental periods lasted 55-90 minutes. At a temperature of 110° F., relative humidity up to 25 per cent., and wind velocity of 25 ft. per minute, the average rate of weight loss at rest with wet underwear was 64 g. per hour as compared with 238 g. in the nude, yielding a saving of 174 g. attributable to the wet garment. When at work, the corresponding values were 279 g. with wet underwear and 588 g. in the nude, or an hourly saving of 309 g. The pulse rate of the resting subjects was 11 beats per minute less with wet underwear than with none, and 7 beats per minute less when at work. When the humidity of the air was 35 per cent. or more these advantageous effects were absent. Other somewhat similar tests are described, and it is suggested that further investigations should be made for application to specific situations. H.M.V.

TOXIC EFFECTS IN WOMEN EXPOSED TO INDUSTRIAL RUBBER SOLUTIONS[6]

The clinical and haematological pictures of 200 women working with industrial rubber solutions* are compared with 200 controlled women with a view to determining the toxic effects. Neutropenia is shown to be the commonest and earliest sign of benzene absorption.

The examinations were carried out in thirteen factories scattered over the country, and the investigation was conducted in two parts. In the first, sample groups were clinically examined and had blood counts done. These counts were compared with the counts of a similar number of control women. In the second part, all the women working in one factory were similarly compared with a group of women in the same factory who had never been in contact with rubber solution. The effects of 'rest' were also studied in this group of women. Even although adequate ventilation is provided, as required under the India-rubber Regulations, 1922 (S. R. & O., No. 329) it is almost impossible for some workers not to inhale the fumes and to be exposed to a high concentration of benzene. Where treated articles remain in the workroom there may be a further increase of benzene in the atmosphere. The general atmospheric concentration of benzene is not an entirely reliable criterion of benzene exposure, since individual workers may at any time be exposed to localized 'pockets' of high concentration, particularly when working over open containers.

It is noted that the substitution of a relatively non-toxic solvent such as solvent naptha would render blood control of the worker unnecessary, but as long as benzene is used it is advisable that workers should be given the protection of routine blood examinations.

The excretion of increased amounts of organic sulphates in the urine is a feature of severe benzene poisoning, but in this investigation no definite changes were found in workers who by clinical and blood examination showed definite and early signs of disease. It would therefore seem that benzene can produce blood changes before it is excreted in significant amounts.

It was also shown that there is no correlation between symptoms complained of and the onset of blood changes. This is important because clinical examination alone is probably useless for the specific detection of early cases. D.S.

5. Lifson, Nathan, and Visscher, M. B. Journ. Indus. Hyg., 1943, 25, 434. Abstracted by "British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

6. Hamilton-Paterson, J. F., and Browning, Ethel. Brit. Med. J., 1944, 1, 349. Abstracted by "British Journal of Industrial Medicine" Vol. 1, No. 3, July, 1944.

*Rubber solutions contain varying amounts of benzene and of the aromatic hydrocarbons benzene, xylene, and toluene; xylene and toluene are less toxic than benzene, but the latter is still used because of the difficulty of obtaining the former in sufficient amounts. As the result of representations by the Factory Department the aromatic content of the rubber solutions used in the special manufacturing process (aircraft industry) investigated was limited to 5 per cent.

CADMIUM POISONING

**Cadmium Poisoning.*—According to Spolyar and his associates cadmium poisoning in industry occurs from the accidental absorption of fumes or dust by way of the respiratory tract, seldom by ingestion. A symptom complex develops that is primarily referable to the respiratory tract and is manifested within four to eight hours by irritation of the nasopharynx, cough, headache and a metallic taste in the mouth. This is followed by a latent period of twenty to thirty-six hours, when the chief complaints are dyspnea and severe pain in the chest. Gastrointestinal complaints may develop, depending on the amount of cadmium swallowed. Cadmium poisoning by ingestion is usually manifested by symptoms referable to the gastro-intestinal tract, namely persistent vomiting for a period of four to six hours with or without diarrhea. Cadmium, being a powerful emetic, seldom produces death when taken orally. This dual symptom complex may explain the scarcity of reported cases of cadmium poisoning occurring as a result of inhaling cadmium fumes or dusts, in that the gastrointestinal symptoms may have been looked for and were missing. The authors report the histories of 5 men who worked in a shop for flanging steel inlet pipes. Flanging was accomplished by a team consisting of two men, one known as the heater and the other as the flanger. The heater heated one end of the 6 inch pipe by means of a propane-oxygen blowtorch until it was cherry red. The flanger created a flange, or bevel, on the heated end of the pipe. This work had been done for six months, when a different type of pipe was supplied. Soon after beginning work, the men noticed more smoke than usual and a dense yellowish brown fume being emitted from the pipe. After all the 5 men who had worked on these pipes for about four hours each had become ill, the operation was discontinued. Death of 1 of these men, who had been longer exposed to the cadmium fumes, led to inquiry by the insurance company, which disclosed that the pipe was coated with cadmium. The authors present data on 38 additional cases of cadmium poisoning by inhalation. Of the total of 43 cases 6 were fatal, indicating a mortality rate of 14 per cent. Death occurs between the fifth and seventh day after exposure. Recovery occurs within seven to eleven days.

*Journal Industrial Hygiene and Toxicology, Sept., 1944. Abstracted in J.A.M.A., Nov. 11, 1944.

THERAPEUTIC INTRACEREBRAL INJECTIONS OF TETANUS ANTITOXIN[7]

Because of the failure of tetanus antitoxin to appear in spinal fluid following an intravenous or intramuscular injection, L. S. Stern believes that, by cisternal injection, the antitoxin will reach the ventricle, if the injection is performed with the patient in a modified Trendelenburg position. 9,000 to 15,000 units of antitoxin are injected, after withdrawing an equal volume of cerebrospinal fluid. Daily injections for five days may be necessary. It was reported that all signs disappeared, as a rule, within two weeks, the first improvement beginning to appear about twenty-four hours after the injection. Improvement has been noted after failure of massive doses given intramuscularly. The cisternal injection was supplemented by parenteral administration of the antitoxin in order to reach the toxin which is located elsewhere than in the central nervous system.

7. American Review of Soviet Medicine, 1:540, August, 1944.

PENICILLIN FOR MENINGOCOCCEMIA

The prompt administration of penicillin in the case of a Waterhouse-Friderichsen syndrome (a sudden and severe infection due to the presence of meningococcic bacteria) accounts for at least one favorable recovery, J. M. Hayes, M.D., Los Angeles, and John F. Whalen, M.D., Altadena, Calif., report in *The Journal of the American Medical Association* for March 17. With the increasing prevalence of meningococcic meningitis there also has been an associated rise in the number of cases of the so-called Waterhouse-Friderichsen syndrome.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

CHAMPAIGN COUNTY

Major W. H. Youngerman of Champaign is now head of the nose and throat section of a general hospital stationed in England.

Cesare Gianturco of Urbana has been promoted from Major to Lt. Colonel.

COOK COUNTY

Sidney James MacLeod of Chicago has been recently promoted from Major to Lt. Colonel in the Army Medical Corps.

Lt. Colonel John H. Gilmore, MC, formerly of Chicago is Chief of the x-ray services at William Beaumont General Hospital, El Paso, Texas. He was radiologist to Illinois Masonic Hospital and the Illinois Eye, Ear, Nose & Throat Infirmary before entering the army.

Colonel Carl Steinhoff, MC, USA, of Chicago was a recent visitor at a meeting of the Chicago Medical Society.

The Bronze medal for bravery and efficiency was recently awarded to Capt. F. C. Winskunas, formerly of Chicago. Dr. Winskunas graduated from Loyola University School of Medicine, Chicago, in 1932 and entered the service Oct. 21, 1942.

The Silver Star was recently awarded to Lieut. Col. John V. Belmonte, formerly of Chicago, for performing a successful field operation at night with only a flashlight for illumination. Commander of the American Division's medical battalion, he voluntarily accompanied infantry assault troops in an advance against enemy positions to perform the operation under enemy fire. Dr. Belmonte graduated from Loyola University School of Medicine, Chicago, in 1932 and entered the service March 5, 1941.

Mary Martin, assistant pathologist, St. Luke's Hospital has received word from the United States military mission in Moscow through the adjutant general's office, that her husband, Captain Frederick Marks, has been released from a German prison camp by the Russian army. Captain Marks was captured at the Anzio beachhead May 26, 1944.

Lt. Col. Philip A. Daly was awarded the Bronze Star January 1st, 1945 for meritorious services in support of combat operations in Italy from September 9th, 1943 to June 5th, 1944. He displayed ecxellent administrative qualities and leadership in supervising the operation of the hospital.

Lt. Col. Manuel E. Lichtenstein was awarded the Bronze Star January 1st, 1945. As Chief of Surgical service he efficiently organized the service and conspicuously directed a complex function with outstanding professional skill and with complete disregard for personal fatigue.

Lt. Herbert Karol, formerly of Chicago, was recently reported to have been the first American physician to arrive on the island of Leyte during the American invasion. He was awarded a citation for caring for the wounded on shipboard during the invasion, during heavy bombing attacks. Dr. Karol graduated from the University of Illinois College of Medicine, 1942 and entered the service August 1, 1943.

Leo P. A. Sweeney who has been serving at the base section in Italy has been promoted from Lt. Colonel to Colonel.

Capt. Mila Pierce, MC, USA, who has been in England will return home soon to recuperate from a fracture of the leg. She went overseas under the auspices of the Red Cross during the early days of the war and worked with the British medical group. After the United States

Army commissioned women doctors, she joined the Medical Corps and has continued her work in England.

John Post, MC, USA, has been promoted from Major to Lt. Colonel.

Robert F. Sharer, MC, USA, of Oak Park has been promoted from Major to Lt. Colonel.

FAYETTE COUNTY

The Silver Star Medal was recently awarded to Lieut Comdr. George A. Stanbery, formerly of Vandalia, Ill., "for conspicuous gallantry and intrepidity while serving as battalion medical officer with the Second Amphibian Tractor Battalion, Second Marine Division, during action against enemy Japanese forces on Tarawa Atoll, Gilbert Islands, Nov.21-23, 1943. Realizing the urgent need for medical assistance ashore on the morning of November 21, Lieutenant Commander Stanbery personally assumed command of his landing boat and ordered it to land despite the intense, persistent machine gun and anti-boat fire which was driving all small craft back from the beach. On landing, he immediately joined a hard pressed aid station and, working tirelessly and with complete disregard for his own safety, continually exposed himself to enemy fire in order to evacuate seriously wounded casualties onto amphibian tractors. By his splendid initiative and outstanding professional skill, Lieutenant Commander Stanbery was responsible for the saving of many lives, and his courageous efforts under extremely hazardous conditions were in keeping with the highest traditions of the United States Naval Service." Dr. Stanbery graduated from St. Louis University School of Medicine in 1927 and entered the service March 23, 1942.

JACKSON COUNTY

Under Secretary of the Navy Ralph A. Bard recently presented the Bronze Star to Comdr. Martin Van Brown, formerly of Carbondale, Ill., and now on duty as executive officer of the Hospital Corps School for members of the Women's Reserve, at the Naval Medical Center, Bethesda, Md. The citation accompanying the award read "for heroic achievement as medical officer attached to a warship during the assault and capture of an enemy Japanese held island in the Pacific war area on July 24, 1944. Cool and courageous under hostile fire, Commander Brown rendered gallant service throughout this hazardous operation and, although painfully wounded, continued at his post of duty for twelve hours, administering medical care to casualties aboard. His outstanding professional skill and inspiring conduct were in keeping with the highest traditions of the United States Naval Service." Dr. Brown graduated from the University of Illinois College of Medicine, Chicago, in 1931 and entered the service June 18, 1930.

LEE COUNTY

William Theodore Holliday of Amboy, MC, USA has been promoted from Major to Lt. Colonel.

McLEAN COUNTY

Edwin Louis Rypins of Bloomington, MC, USA has been promoted from Major to Lt. Colonel.

Howard Sloan of Bloomington, Lt. Commander USN recently returned from New Hebrides and has been assigned to Norman, Oklahoma.

Raymond Edwin Baxter, Bloomington, Lt. MC, USA has returned from Africa and is waiting reassignment.

MACON COUNTY

James Bruce Waller of Decatur, MC, USA, has been promoted from Major to Lt. Colonel.

MARSHALL COUNTY

Bruce I. Ryder of Henry, Marshall County, is also a member of the Peoria Medical Society which reports that he is the first of their members to feel the bite of enemy steel. Reports indicate that the lesion was not serious; that he probably would be back on active duty shortly. Doctor Ryder eagerly sought to obtain a commission and finally signed waivers which enabled him to be accepted, although, supposedly for limited service. He has served well.

PEORIA COUNTY

Walter King has left the environs of Paris where he was a patient, under the care of Carl Sibilsky's unit. From there he was transferred to a hospital in England and at last report was awaiting transportation to the U.S.

George Borin is back in the USA and has been sent to a rest camp in California where his family has probably joined him by this time. Possibly in the not too distant future both George Borin and Walter King can return to Peoria.

Garnett M. Frye of Peoria is now a medical officer at a naval school unit at Manhattan, Kansas.

William Cooley, of Peoria has exchanged his gold leaf for a silver leaf designating his promotion to Lt. Colonel. He is in charge of an Army Hospital in Missouri.

SANGAMON COUNTY

Major Nelson Chestnut, formerly of Springfield, Ill., and now commander of the 607th medical clearing company, stated that there were 145 litter cases among the 2,121 liberated persons from the Los Banos internment camp.

Captain Richard A. Morrissey, formerly employed as bacteriologist in the Springfield Laboratory of the Illinois Department of Public Health, has been awarded the Bronze Star for meritorious services in support of combat operations in Italy. The presentation was made by Lt. Gen. Mark W. Clark.

Capt. Morrissey devised means of assembling and recording medical data which reflected immediately the status of the Fifth Army's fighting efficiency. His special studies on malaria, typhus, gas gangrene, trench foot and other diseases provided the factual basis for policies formulated to prevent and treat each disease. He also provided the Fifth Army Commander with a scientific plan upon which to base requests for replacements.

ST. CLAIR COUNTY

Colonel Walter A. Dew, of Belleville, is now port surgeon in an Italian seacoast town. His task is to look after the health of all military and naval personnel in the town and on incoming and outgoing ships. The doctor colonel whose hobby for many years has been "cooking" still practices his favorite avocation. His stock of spices on his cooking shelf are gifts from stewards on Liberty and hospital ships which docked in the vicinity where Colonel Dew is located.

GENERAL

COOK COUNTY

Appointment of Max Cutler as member of the special medical advisory group to the veterans administrator has been announced. He will serve as counselor on tumors. He is director of the tumor research clinic at the veterans hospital, Hines.

L. C. VonderHeidt, superintendent of the West Suburban Hospital, Oak Park, has been named to fill the unexpired portion of the term of the late Irving S. Cutter as member of the board of directors of the Chicago Hospital Council.

Dr. Andrew C. Ivy, professor of physiology at Northwestern University Medical School, has been named to a three year term of membership to the National Advisory Cancer Council of the U. S. Public Health Service.

Dr. George E. Wakerlin, professor of physiology and head of the department, University of Illinois College of Medicine, has been elected chairman of the Chicago Cancer Committee, succeeding Dr. Ludvig Hektoen, who becomes honorary chairman. The committee will maintain offices at 139 North Clark Street, which will be shared by the Field Army of the American Cancer Society, of which Mrs. Arthur I. Edison is Illinois Commander, and where a central cancer information and referal center will be established.

Dr. Robert F. Brown, assistant superintendent of the Stanford University Hospitals, San Francisco, has been appointed assistant administrator and medical director of St. Luke's Hospital, effective March 15. Dr. Brown graduated at the University of Oregon Medical School, Portland, in 1938, becoming assistant to the superintendent of Stanford University Hospitals in July 1942 and assistant superintendent in December 1943. Dr. Ambrose P. Merrill resigned as medical director January 1.

Dr. Theodore R. Van Dellen, medical consultant to the Chicago *Tribune* since 1941, has been appointed health editor, succeeding the late Dr. Irving S. Cutter. Dr. Van Dellen graduated at Northwestern University Medical School in 1936.

The North Side Branch of the Chicago Medical Society met at the Drake Hotel, April 5. Speakers were Dr. Edwin C. Hamblen, Durham, N. C., on "Functional Uterine Bleeding"; Frank X. Gassner, D.V.M., Fort Collins, Colo., "Some Endocrine Problems in Veterinary Medicine," and Warren O. Nelson, Ph.D., Iowa City, "Endocrine Factors in the Development and Function of the Breast."

Dr. Derrick T. Vail, Jr., colonel in the Army medical corps and chief consultant to the Surgeon General in ophthalmology, has been appointed professor of ophthalmology and chairman of the department at Northwestern University Medical School. He will succeed the late Dr. Sanford R. Gifford, who was professor of ophthalmology at the medical school from 1929 until his death in February 1944. Dr. Vail graduated at Harvard Medical School, Boston, in 1923. Since 1926 he has been associated with the University of Cincinnati College of Medicine, first as instructor in ophthalmology and since 1937 as professor. Dr. Vail was Secretary of the Section on Ophthalmology of the American Medical Association from 1937 to 1942. He will take up his appointment at Northwestern as soon as he is released from the Army.

Clay G. Huff, Sc.D., professor of parasitology at the University of Chicago, has accepted an invitation from the Institute of Public Health and Tropical Diseases of Mexico City to visit that institution as guest investigator from March 1 to April 15. Dr. Huff's trip will be under the auspices of the U. S. Department of State.

Reuben G. Gustavson, Ph.D., Boulder, Colo., who resigned as president of the University of Colorado, has been appointed dean of the faculties of the University of Chicago, effective July 1.

Dr. James L. d'A. Roth, who graduated at Northwestern University Medical School in 1944, is the recipient of the Joseph A. Capps Prize for medical research of $400, awarded by the Institute of Medicine of Chicago. Dr. Roth was chosen for his investigation on "The Effect of Caffeine on the Stomach."

Dr. M. A. Perlstein has been invited by the Rochester Pediatric Society and by the University of Rochester Medical School to give talks on the Cerebral Palsied and on Convulsions in Children.

LA SALLE COUNTY

Under the auspices of the La Salle County Medical Society, an Industrial Health Conference was held on the evening of April 12th. Dr. Milton H. Kronenberg of Peoria spoke on "The Veteran Returns to Industry." Dr. Frederick W. Slobe of Chicago spoke on "The Medical Care of Executives." Mr. James R. Allan, Assistant Manager of the Industrial Engineering and Construction Department of the International Harvester Company, Chicago, spoke on "Industrial Health — A Sound Business Policy."

La Salle County has always been active in industrial health and it is hoped that other county medical societies will inaugurate similar meetings during the coming year.

MACOUPIN COUNTY

A dinner meeting of the Macoupin County doctors and wives was held on March 20th at the Evangelical Hall at Carlinville. M. F. Engman, Jr. of St. Louis spoke on "Skin Diseases of School Children." Colored slides were shown on the subject.

The following officers have been elected by Macoupin County Medical Society to serve the coming year: President, A. C. Goff of Staunton; Vice-President, G. J. Hess, Bunker Hill; Secretary-Treasurer, D. J. Zerbolic of Benld.

SANGAMON COUNTY

Dr. Roland R. Cross, Director of the Illinois Department of Public Health has been named by Governor Green as Chairman of an Advisory Committee on Medical Services to serve with the Governor's Committee on Veterans' Rehabilitation and Employment.

Dr. Henrietta Herbolsheimer has been appointed Chief of the Division of Maternal and Child Hygiene of the State Department of Public Health, effective January 1, 1945. During the previous six months she filled this position as Acting Chief, after having been promoted from a staff position which she had held since May, 1942.

A resident of Illinois, Dr. Herbolsheimer's home is in Peru. She received a certificate from La Salle-Peru-Oglesby Junior College, took her Bachelor of Science degree from the University of Chicago, and in 1938 received her medical degree from the University of Chicago School of Medicine. Following an internship at Los Angeles County General Hospital in Los Angeles, she served at Los Angeles City Maternity Service, the Chicago Lying-In Hospital, and the Chicago Maternity Center.

Dr. Herbolsheimer is a member of Phi Beta Kappa and Alpha Omega Alpha.

VERMILION COUNTY

Dr. Charles E. Wilkinson, Danville, a member of the Council of the Illinois State Medical Society for some 15 years, was presented with the emblem and certificate of membership in the Fifty Year Club at the meeting of the Council held at the Palmer House on Sunday, March 25th.

Dr. Andy Hall of Mt. Vernon, Chairman of the Fifty Year Club since its organization made the presentation with some fitting and highly appropriate remarks relative to the work of Dr. Wilkinson over this long period of time. Dr. Hall recalled that Dr. Wilkinson was graduated from the Medical Department of the University of Pennsylvania in 1895, and although his medical education was completed that year so far as his diploma was concerned, yet he has been studying medicine ever since and has advanced with the times.

He recalled the conditions which prevailed at the time Dr. Wilkinson entered practice, and mentioned the many things which have been developed by science in general and by medical science specifically during the fifty years of practice. Dr. Hall has been chairman of the Fifty Year Club since its organization and has made many presentations since that time and those who know Dr. Hall, also a Fifty Year Club member, can be well assured that his remarks were entirely suitable on that occasion.

This was a surprise to Dr. Wilkinson who had no intimation that he was to be honored on this occasion, and Dr. Hall offers an apology to the Vermilion County Medical Society for making this presentation outside of that county, and without the many conferees of Dr. Wilkinson being present, although he stated that there is nothing in the rule book to prevent the home society of Dr. Wilkinson honoring him this year in any way that may be desired. It was also announced by Dr. Hall that with more than 12,000 physicians normally in practice in this state, only slightly more than 300 enjoy the privileges of membership in the Fifty Year Club.

MISCELLANEOUS

The Central Illinois Society of Ophthalmology and Otolarynology has been formed for the mutual benefit of those practicing in these specialties in the central part of the state. The president is Watson W. Gailey of Bloomington; Dr. Walter Stevenson of Quincy is second vice president; Dr. William F. Hubble, Decatur, secretary-treasurer, and Stuart Broadwell of Springfield, vice-president.

The membership is limited to 50 and they must be members of the national board or eligible to membership in it.

The first meeting will be held in Bloomington, April 21 and 22, when Dr. Rudolph Aebili, nationally known ophthalmologist of New York City and Dr. M. F. Arbuckle, laryngologist of St. Louis, will be the speakers.

Three meetings a year will be held and the most eminent men in the professions will present papers.

While the membership has been limited, any eye, nose and throat practitioner may attend its meetings, as the guest of a member.

There are two other societies of these specialists in Illinois, Chicago and Rock River. Central Illinois has never been organized. "This society has been formed," said Dr. Broadwell, "for the benefit of specialists in central Illinois. Its purpose is to raise standards of practice and to promote the profession."

A new film on rehabilitation, entitled "Back to Normal," has been added to the film library of the American Medical Association. This shows how science makes it possible for those who lose limbs by amputation or accident to adjust themselves to old or new occupations. Artificial limbs and special training are the means to this goal.

This feature is a 16 mm. black and white sound film and takes sixteen minutes to run. It is available on a loan basis, the only cost being that of transportation. Requests should be addressed to the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn Street, Chicago 10, Ill.

MARRIAGES

M. Herbert Barker to Miss Marjorie Leigh, both of Chicago, in Washington, D. C., in February.

DEATHS

Harvey A. Berkey, Elmhurst; Chicago College of Medicine and Surgery, 1913. Had practiced in Elmhurst and Chicago for 30 years. During World War I, he served as a lieutenant in the army medical corps. Died March 25th, aged 73 years.

John Henderson Burlingame, Evanston, retired; Rush Medical College, 1878. Practiced medicine in Iowa for 50 years. Was veteran of Civil War. Died March 10th, at the age of 97.

Stephen A. Cambourn, Chicago; Northwestern University Medical School, 1897. Had practiced medicine in Englewood for 48 years. Died at his home March 8th at the age of 74 years.

Joseph Henry Davis, Macomb; Bennett College of Eclectic Medicine and Surgery, 1901. Had practiced medicine in Macomb 44 years. Died March 4th in the St. Francis Hospital, following an illness of 2 years. He was 69.

T. Wilson Deachman, Chicago Hahnemann Medical College, 1895. Had practiced medicine in Chicago's loop for more than 40 years. Died March 25th, aged 77 years.

Robert Alonzo Hamilton, Hillsboro; Beaumont Hospital Medical College, St. Louis, Mo., 1901. Had practiced in Pierron from 1903 to 1914 and since that time in Hillsboro. Died February 28th, aged 78, in his home.

Bayard Holmes, Chicago; Rush Medical College, 1904. A physician in Chicago for more than 40 years. Died in his home, March 13th, at the age of 65.

Martin Bushnell Jelliffe, Springfield; University of Illinois College of Medicine, 1917. Had practiced medicine in Springfield for past 26 years. Died March 5th at the age of 55 in St. John's Hospital, following an illness of several weeks.

John V. Lewis, Momence, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1895; at one time mayor of Momence; died in the Manteno State Hospital, January 3, aged 77, of cerebral anemia and coronary sclerosis.

Edith Belle Lowry, St. Charles; Bennett College of Eclectic Medicine and Surgery, 1907. Member of staff of Delnor Hospital, St. Charles. During World War I she was acting chief of the bureau of hospitals for the department of health, Chicago. From 1920 until 1923, she was field director of child hygiene in southern states for the national public health service. She was active in the organization of women's clubs and the author of several books on sex hygiene. Died March 8th at the age of 66.

Cyrus Pilgrim McRaven, Macomb; National University of Arts and Sciences Medical Department, St. Louis, 1915. Following private practice in Pittsfield and Macomb, he became superintendent of the state's five-county health unit, designated as District 8, in February, 1943. Was appointed health officer for the bi-county unit of Fulton and McDonough in August, 1944. Died at Barnes Hospital in St. Louis, February 13th, aged 60.

Jacob Morton Mora, Chicago; University of Illinois College of Medicine, Chicago, 1925; in 1918 member of Students Army Training Corps; assistant professor of surgery at his alma mater; diplomate of the National Board of Medical Examiners; specialist certified by the American Board of Surgery; member of the Chicago Surgical Society and the Chicago Pathological Society; fellow of the American College of Surgeons; interned at the Cook County Hospital; for many years on the courtesy staff of the Passavant Memorial Hospital; consulting surgeon, Kankakee State Hospital, Kankakee, Ill., and attending surgeon at the Mount Sinai Hospital, where he died February 10, aged 44, of dissecting aortic aneurysm with rupture due to arteriosclerosis.

Herman J. Neubauer, Hinckley; Chicago College of Medicine and Surgery, 1917. Practiced medicine in Hinckley for 23 years and in DeKalb for 8 years; was the first physician to use an airplane to make professional calls. He died March 24th, from injuries sustained earlier in the day in a tractor accident on his farm near Malta, Ill. He was 51 years old.

Rocco A. Nigro, Chicago; University of Illinois College of Medicine, 1916. Had practiced in Chicago since his graduation; was a member of the staff of Mother Cabrini Hospital. Died in his home, March 10th, at the age of 52.

Charles Jacob Price, Mount Morris; The Hahnemann Medical College and Hospital, 1900. Was a Captain in World War I and in charge of a camp hospital at La Rochelle, France; member of army reserve corps with rank of major. Died, aged 69, March 21st.

Oscar Frank Reinhardt, Mascoutah; Chicago College of Medicine and Surgery, 1908. Had practiced medicine in Mascoutah for the past 21 years. Served in the medical corps in World War I. Died March 11th at St. Elizabeth's Hospital, aged 59.

Charles M. Wood, Maroa; Northwestern University Medical School, 1895. Had received "Fifty Year Pin" from Macon County Medical Society. Died February 25th, aged 73, at the West Suburban Hospital, Oak Park.

THOSE WITH LUNG AILMENT SHOULD SEE DOCTOR BEFORE TRAVELING BY PLANE

Persons suffering from known diseases of the lungs should consult their physicians before traveling by plane, Lieutenant Commander Harold Vincent Holter, MC-V(S), U.S.N.R., and Lieutenant Orville Horwitz, MC-V(S), U.S.N.R., advise in *The Journal of the American Medical Association* for March 3.

They cite an instance where a young marine reported to the medical unit after his first airplane flight complaining of pains in his chest. Examination revealed about a 60 per cent collapse of the right lung. They believe that the cause of this condition was the change of atmospheric pressure produced by ascent to 8,000 feet in an airplane. They say their report on this case may assist other physicians in advising their patients in this respect.

It has lately been reported that patients with lung injuries may be transported by air, at low altitudes, without danger. However, in these cases, a tear in the lung is known to exist, and no further damage may be expected. "In contrast to these individuals," the two physicians say, "is the one reported in which the tear did not already exist, but is merely a potential weakness which may be converted into a full tear by means of decreased atmospheric pressure.

"Although no definite conclusion may be drawn from this particular case, it is our considered opinion that extreme caution should be exercised in advising patients who have had the known diseases of the pleura about airplane travel."

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.
Peoria, Ill.

THE IRREPRESSIBLES

Whenever you go to a meeting
Where they're making speeches and eating,
With talking and squawking,
Or teaching or preaching,
Or leading or pleading,
With thinking or drinking,
With flinging and singing,
Delighting in fighting
'Tis the same old gang that's repeating.

If there's a question about that claim
All you need do is to ask the name —

There's Calhoun and Keenan,
Falloon, McAleenan,
McGrath, McGraw and Mulvaney,
Brennan and Rafferty,
Drennan and Cafferty,
Bradley, McClusky, Delaney.

Maloney, McMahan,
Mahoney and Sheahan,
Megan, McGovern, Gilhooley
Coogan and Finnegan,
Dugan and Dinnigan,
Duane, Dehority, Dooley.

Crowley and Flanagan
Rowley and Lanagan
Roche, Cavanaugh, Corcoran and Burke
Fogerty, Connolly
Grogerty, Donnelly
O'Connor, McDonough, McTurk.

McConnell, O'Brien,
O'Donnell and Ryan
Riley, Kelly, Cahill, and Sloan
Farrell and Gillilan
Carroll and Sullivan
And Gallagher, Carney, Malone.

Flynn, Glynn, and O'Dwyer,
Finn, Quinn and McGuire,
Donovan, Carey, McNally,
O'Shaunnessy, Nolan,
And Hennessy, Dolan,
Sammon, McCaughey, O'Malley.

O'Houlihan, Whalan,
McClanahan, Nailon,
McDermitt, Mulcahey, O'Dea,
O'Doyle and O'Grady
O'Boyle and Bradey
McGuinnes, Finnell and O'Shea.

Grogan and Madigan
Hogan and Ladigan
Bergan, O'Rourke and McGarry
Kerrigan, Shannahan
Corrigan, Carmahan,
Casey, McGinnity, Barry.

O'Bryne and Sheehan
O'Hern and Mehan
Flannery, Clancy and Feeney
And Scanlon and Kenny
O'Hanlon and Denny
Daugherty, Scullen and Sweeney.

Cooney and Rafferty
Rooney, McCafferty
Donlin and Devlin and Brannon
O'Leary and Noonan
And Neary and Doonen
Haggerty, Durkin and Shannon.

McDuffy and Finney,
McGuffy and Kinney,
Donahue, Murphy, Fleharty,
Morairity, Derry,
McGarrity, Kerry,
Cassidy, Farnum, McCarty.

No matter what your locality
Always the same nationality.

DIMINISHING RETURNS

When I look at mankind
At its hustle and grind,
As men scramble 'til shoe leather burns;
And as madly they go
I would ask if they know
Of the law of diminished returns.

For to them all of life
Seems but hurry and strife,
As they tear round its corners and turns;
Rushing early and late
To their foreordained fate,
Thru the law of diminished returns.

With preoccupied air,
Each must scurry and tear,
And composure and friendliness spurs,
He forgets, the poor fool,
The inflexible rule,
The fixed law of diminished returns.

How I loathe this mad race
With its heart breaking pace
As for leisure one fervently yearns,
And the thing I implore
Is a chance to ignore
The old law of diminished returns.



Reserves for G. U. *Infections*

When sulfonamides cannot be employed in genito-urinary infections, the alert physician utilizes the time-tried reserve of the azo dyes. Serenium, a therapeutically-effective dye, has the distinct advantage of being analgesic to the inflamed mucous membranes. It relieves the discomfort of urethritis, cystitis, prostatitis and pyelitis. Although bacteriostatic for many organisms invading the urinary tract, its toxicity is low, its margin of safety more than adequate.

SQUIBB

Serenium
TRADEMARK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



REED & CARNRICK
Parenteral Medicaments

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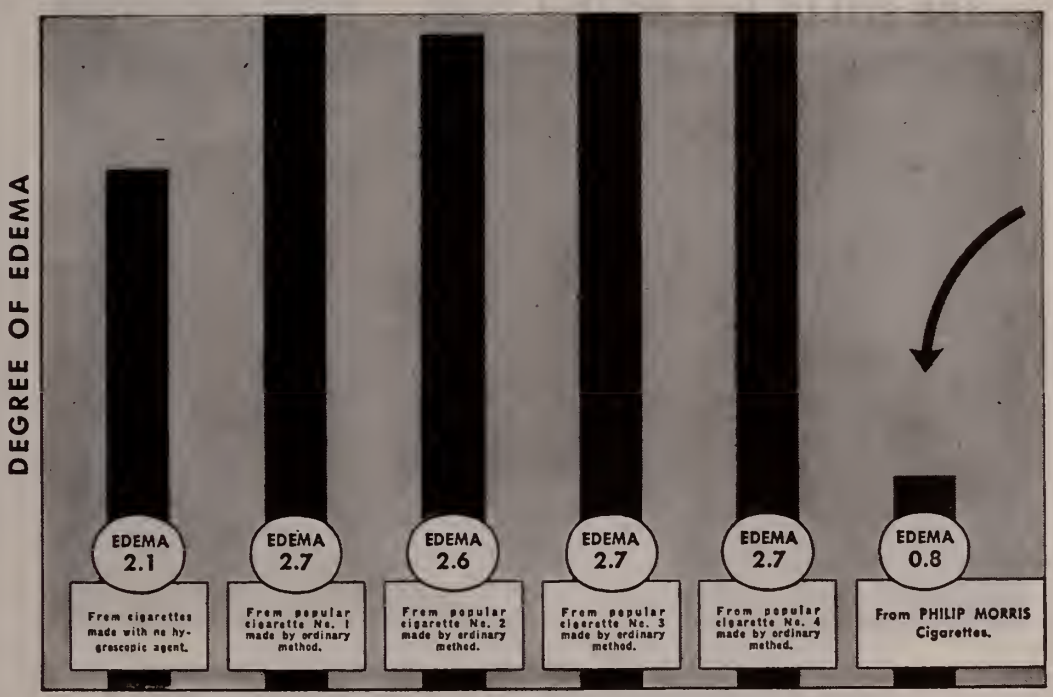
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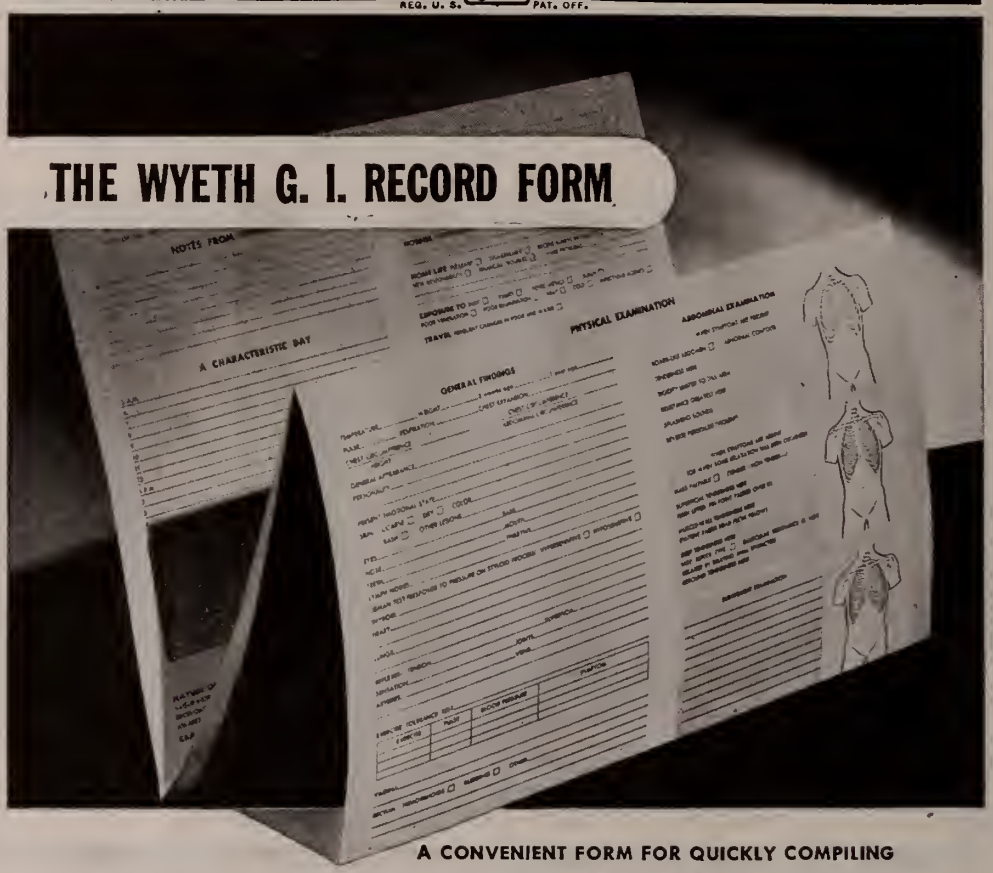
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(Continued on page 64)



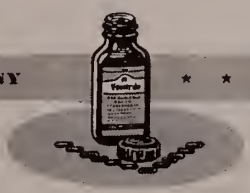
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No physician may submit more than one piece nor win more than one of the 42 prizes. No physician is eligible for a prize unless he also submits for exhibition at either the 1945 or the 1946 annual exhibition of the A.P.A.A. at least one other original work (not previously exhibited at an A.P.A.A. Exhibition) in any medium, on any subject of his own choice. Prizes will be awarded on a basis of conception and execution, irrespective of medium employed.

6. **JUDGES — See Footnote ★**

7. **EXPIRATION DATE — See Footnote ★**

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★ **FURTHER INFORMATION** available on request of the Association's Secretary, Dr. F. H. Redewill, Flood Bldg., San Francisco, Cal., or Mead Johnson & Co., Evansville 21, Ind., U.S.A.



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Book Reviews

PATHOLOGY OF LABOR, THE PUERPERIUM AND THE NEWBORN; by Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine, Indianapolis, Indiana. Cloth. Pp 382, with 191 illustrations, including 10 in color. St. Louis, C. V. Mosby Company, 1944. $7.50.

This volume is an elaboration of the author's lecture notes during a teaching experience of 25 years, setting forth the essential and the progressive in the present-day obstetric thought. It is well illustrated by the re-drawing and modification, for the purpose of further clarification, of illustrations acknowledgedly taken from texts by DeLee, Titus, Irving, Stander, Beck, Schumann, and Potter.

The orderly outline-pattern of presentation does not attempt to give a complete treatise of the subjects in the title. The author's premise that each student should be prepared to recognize pathologic processes early and to properly evaluate their significance is well projected, centering the students' interest upon infection, toxemia, hemorrhage, disproportions, and deficiencies of the passenger-passage-power triad, prophylaxis and an intelligent attitude toward the urgencies of the newly-born second patient.

The author further directs attention to the more ponderous obstetric difficulties and conditions, clearly outlining their several manners of control.

The theme of advanced obstetric thought, "the importance of adequate consecutive preconceptional, prenatal, delivery and post-partum care" has been well developed.

Part I presents the faults of the passenger, the passages and the powers, including the difficulties encountered by reason of fetal monstrosities, abnormal presentations, and placental pathology. Injuries to the pelvic architecture and associated structures, post-partum hemorrhage and a full conditioned outline of obstetric operations are included.

Part II presents the pathology of the puerperium, including the puerperal infections, late post-partum hemorrhages, diseases of the breasts and the troublesome bedside complications, as well as the psychoses peculiar to the post-partum phase.

Part III presents pathology peculiar to the newborn, including accidents and injuries incident to delivery, malformations, and the more frequent and urgent medical and surgical conditions.

The appendix rationalizes the various manners of analgesia and, among other valuable items, presents a teratological classification in outline form.

This book impresses your reviewer as a valuable epitome for the guidance of the progressive physician, as well as an excellent thought-provoking vehicle for

(*Continued on page* 48)

When the RISK is great

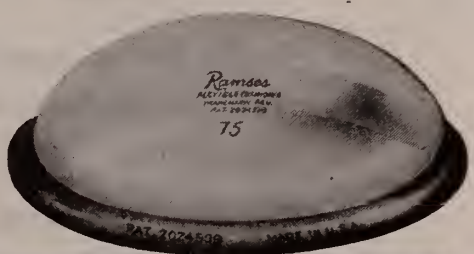


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BOOK REVIEWS (Continued)

the obstetrician in military service who is desirous of refreshment by means of a sparkling dehydrated type of text.

E. H. B.

THE ABORTION PROBLEM; By Howard C. Taylor, Jr., M.D., Conference Chairman. Cloth. Pp 180. The Williams and Wilkens Company, Baltimore, 1944.

Proceedings of the Conference held under the auspices of the NATIONAL COMMITTEE ON MATERNAL HEALTH, INC. at the New York Academy of Medicine, June 19th and 20th, 1942.

The conference of this Committee, founded in 1923, was attended by forty-six leading physicians, jurists, and sociologists.

Passage of over two years between the conference and the publication of the proceedings, attributed to the war and the extra responsibilities assumed by many of the participants, does not detract from this splendid series of papers and discussions which survey the magnitude of the problem; spontaneous abortion and its prevention; and control by further education of the population in general but particularly the younger generation.

This well-edited report is recommended to the entire medical profession, to the end that it may be better informed and thereby more fully assume its rightful status in the educational pattern determined necessary before public opinion can be adequately aroused to prompt further corrective measures.

E. H. B.

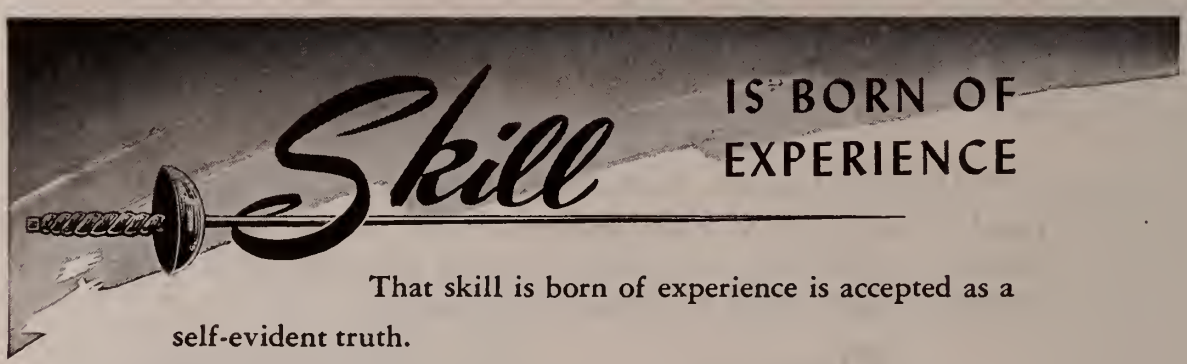
MALARIA IN THE UPPER MISSISSIPPI VALLEY 1760-1900 by Erwin H. Ackerknecht, Supplements to the Bulletin of the History of Medicine No. 4, The John Hopkins Press, 1945, price $2.00.

This interesting supplement discusses the shortcomings of malarial records not only in the Mississippi Valley but elsewhere as well, and the rise and fall of malaria in the Upper Mississippi Valley. While it has not disappeared, it has decreased to such meager proportions as "to practically justify the expression 'disappearance'." This holds good also for France, England, Germany, the Netherlands and Denmark.

He discusses the factors for the disappearance of malaria. He lists 12 possible factors as follows:

1. Population movement
2. Railroad, steamship and steam regulation
3. Clearing, cultivation and drainage
4. Prosperity
5. Housing
6. Screening
7. Education

(*Continued on page* 50)



That skill is born of experience is accepted as a self-evident truth.

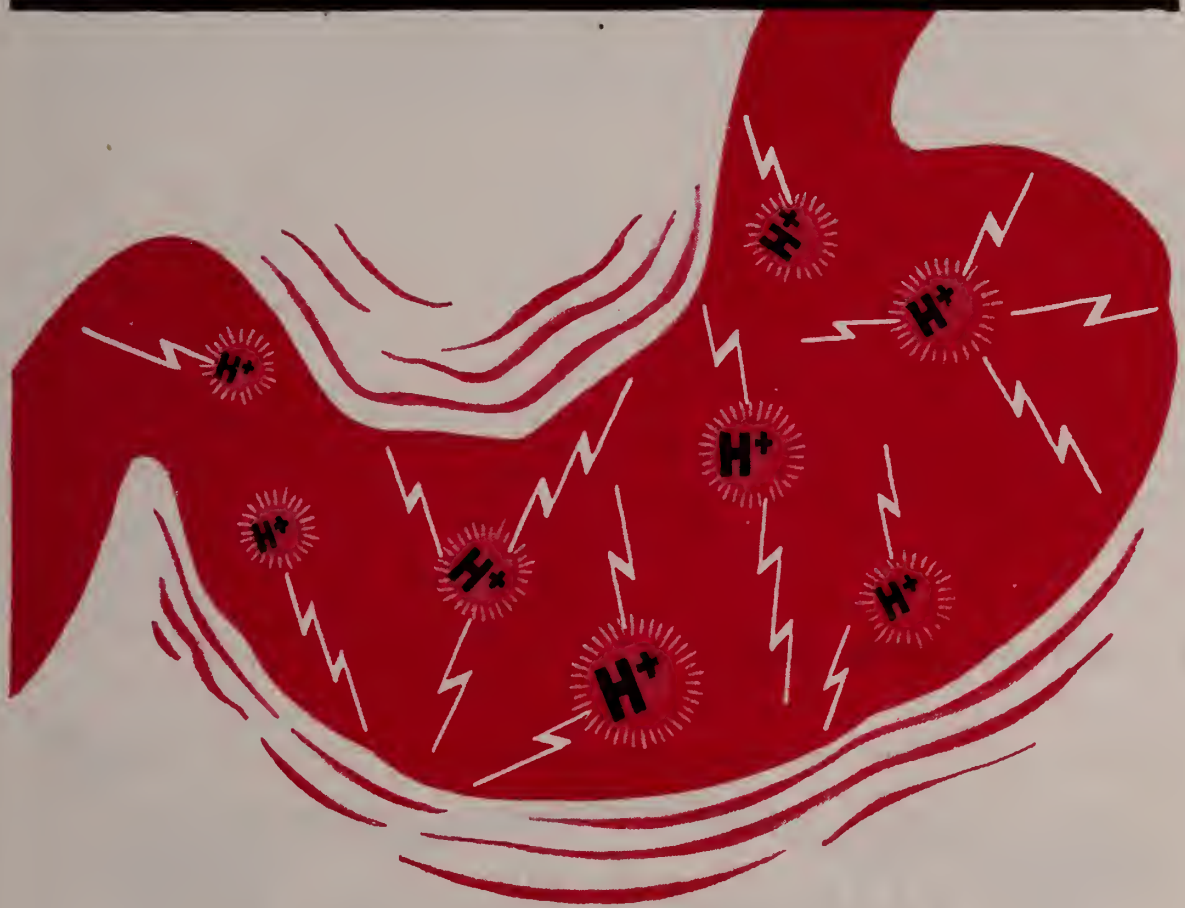
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BOOK REVIEWS (Continued)

8. Food
9. Cattle breeding
10. Mosquitoes
11. Quinine
12. Weather and climate

Curiously, quinine has apparently had little to do with the decline in the incidence of malaria. This in no wise minimizes its importance in treatment. This review impresses one with the possibility that malaria like tuberculosis is partly, if not largely, a social disease with a medical aspect.

The author has a rather interesting discussion of patent medicines and their part in the treatment of malaria. It required nearly 20 years for quinine to achieve general recognition. He says "Quinine cannot have a direct effect on the eradication of malaria from a community. Whoever tries to link quinine directly with the disappearance of malaria x x is pleading a lost cause." However, he thinks the economic development of the whole region and the consequent decline in malaria would probably have been considerably retarded without quinine.

This is, on the whole, an interesting study, very well done and worth reading.

J. H. H.

★ **BUY AN EXTRA BOND** ★

NEW LOW RATE OF V. D. AMONG TROOPS IN PANAMA

Success of the fight against venereal disease among the troops of the Panama Canal Department is reflected in the annual report for 1944 recently issued by Col. Wesley C. Cox, Department Surgeon and Venereal Disease Control Officer, which shows a new low rate of 2.09 percent. This rate is less than one-half of the previous annual low of 4.27 established in 1943 and considerably under one-third of the 6.6 percent recorded in 1940, the first year in which large-scale control campaigns became necessary. Contributing to the 1944 record low was a rate of 1.4 percent attained in the final month of the year.

Reports for the first two months of the present year show a still further decline to a rate of 1.8 percent, which gives Army venereal disease control officers a basis for setting the goal for 1945 at two percent or less.

Contributing to this favorable average, which is substantially lower than that for the continental U. S., is the cooperation between Army and Republic of Panama health officers in a thorough program which eliminates sources of infection.

Starting with Brig. Gen. Henry C. Dooling, Chief Health Officer, The Panama Canal, and Suregon, Caribbean Defense Command, who acts as liaison officer between the Army and the civil authorities, the campaign is carried on under the direct supervision of

(*Continued on page 52*)

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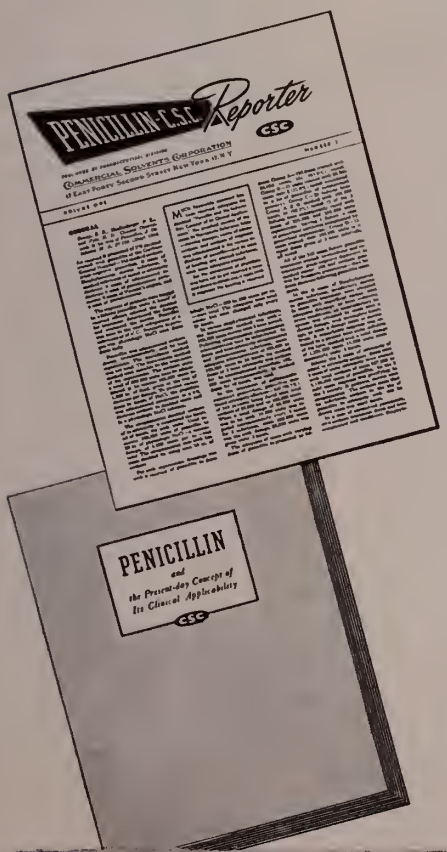
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*Collins, B. C.: Subacute Bacterial Endocarditis Treated with Penicillin, J.A.M.A. 126:233 (Sepr. 23) 1944.

MacNeal, W. J.; Blevins, A., and Poindexter, C. A.: Clinical Arrest of Endocarditis Lenta by Penicillin, Am. Heart J. 28:669 (Nov.) 1944.

Zimmerman, S. L., and Barnett, R. N.: Case of Probable Meningococcus Endocarditis Apparently Cured with Penicillin, Sourh. M. J. 37:694 (Dec.) 1944.

Herrell, W. E., and Kennedy, R. L. J.: Penicillin: Its Use in Pediatrics, J. Pediat. 25:505 (Dec.) 1944.

Dawson, M. H., and Hunter, T. H.: The Treatment of Subacute Bacterial Endocarditis with Penicillin, J.A.M.A. 127:129 (Jan. 20) 1945.

Nahum, L. H., and Doff, S. D.: Recent Advances in the Treatment of Heart Disease, Connecticut M. J. 9:3 (Jan.) 1945.

Poindexter, C. A.: The Use of Penicillin in the Treatment of Subacute Bacterial Endocardiris, reproduced by permission of the American Heart Association in J. Arkansas M. Soc. 41:165 (Jan.) 1945.

White, P. D.; Mathews, M. W., and Evans, E.: Notes on the Treatment of Subacute Bacterial Endocardiris Encountered in 88 Cases at the Massachusetts General Hospiral During the Six Year Period 1939 to 1944 (Inclusive), Ann. Int. Med. 22:61 (Jan.) 1945.

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PANAMA (Continued)

Col. Cox. Medical officers of the Sixth Air Force, Panama Mobile Force and Security Command, Coast Artillery Command, and Department overhead units in turn direct the work in their own organizations with the assistance of officers and non-commissioned officers down through the corporal of the squad.

In addition to its organized program of instruction and indoctrination of troops, the Army employs the private physician and patient relationship in cases of military personnel whose records show frequent exposure to potential sources of infection. Such individuals receive direct counsel from their respective medical officers, unit commanders and non-commissioned officers, all of whom use a sympathetic approach in pointing out the deleterious effects of venereal disease upon the mental and physical faculties.

Control of venereal disease is made a responsibility of command under the Army program. Commanding officers down to the lowest grades are charged with getting across to their troops the Department Surgeon's slogan. "A clean and healthy body is but a small contribution to our country in this time of need."

The need for and value of moral cleanliness is impressed on the troops through periodic lectures and photographic displays with emphasis on reaching each individual directly. Causes and effects of venereal disease are vividly explained through the media of informal talks, demonstrations and clinical exhibits. The necessity of chemical cleanliness is especially stressed whenever moral cleanliness fails. Supporting the entire program is an extensive schedule of recreational activities and educational facilities provided by the Army to occupy the off-duty time of troops.

Cooperation by the Republic of Panama is under the direction of Dr. Guillermo Paredes, Director of Public Health, who works in liaison with Gen. Dooling in locating suspected sources of infection, and provides for examination and treatment of infected women, both in the Interior and in the terminal cities. Dr. Forrest E. Brown is Venereal Disease Control Officer on Gen. Dooling's staff while Dr. Sidney B. Clark works directly with Dr. Paredes.

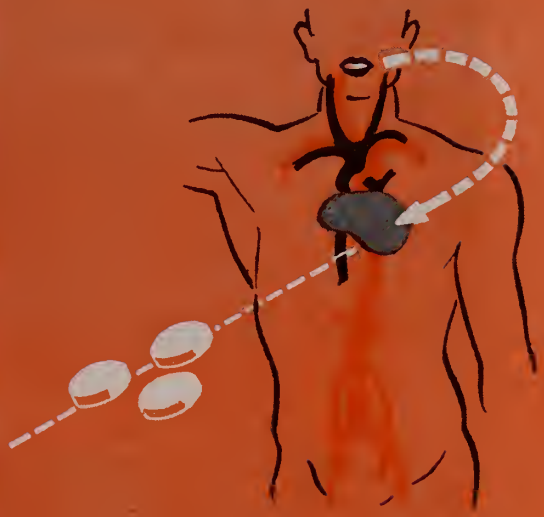
Infected women are located through the routine reports required by the Army from military personnel applying for treatment. From the descriptions and personal data shown on these reports, the Army and Republic health officers are able to locate diseased women promptly and to place them under treatment. Clinics are established in the Interior where the women are kept in custody until treatments are completed. The republic also maintains clinics in the principal cities of Colon and Panama together with the National Institute for the Control of Venereal Disease among women. In addition, the government officials promote a system of education and control over the morals of the Republic's youth.

We must always remember that good health is itself one of the best preventives of tuberculosis. Fred H. Heise, M. D., NTA BULL., Jan. 1945.

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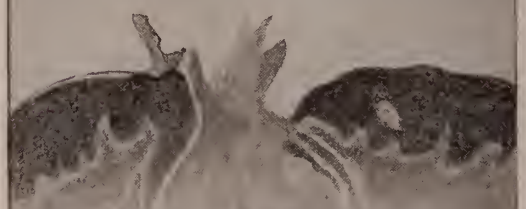
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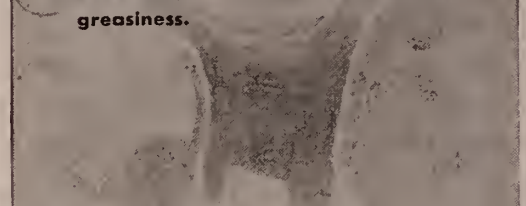
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USE OF PENICILLIN HELPS SAVE A MAN'S EYE

Penicillin and sulfadiazine were used to successfully treat a man's eye which had become seriously infected from a perforating wound suffered four days before he came under medical care, Nell White Sanders, M.D., Baltimore, reports in *The Journal of the American Medical Association* for February 17.

"Small, dirty perforating wounds of the eye," Dr. Sanders says, "generally have rather grave consequences. This case is reported because not only was it a serious type of injury but there was much delay in beginning treatment."

The patient was first seen in the dispensary on July 9, 1944. He said that on July 5, while at work, he was struck in the left eye with a gave him no trouble until July 8, when it became painful and inflamed. He did not report for treatment until the next day. A puncture piece of bailing wire. He stated that the eye wound of the cornea was found. The presence of a hypopyon made it impossible to ascertain whether or not the iris was damaged.

Sulfadiazine treatment was started but four days after admission no improvement was evident; the hypopyon was becoming larger and the whole inflammatory process was extending. "We felt that unless something was done to arrest the process it would be necessary to enucleate the eye," Dr. Sanders says.

Penicillin treatment then was started, the sulfadiazine being continued for four days. It was reinstituted ten days later when the penicillin was discontinued. One month and four days after admission the patient was discharged and when last seen ten weeks later there was limited vision in the eye but he said he was working every day and that the eye gave him no trouble.

No person need be told that he has "a spot on the lung." If the condition is as clinically insignificant as the term suggests, the patient should be told that he has a scar from a previous tuberculous infection — one that needs an occasional check-up or one that needs no further observation. Or when the diagnosis is certain, the patient should be told that his lungs are normal. For, while "a spot on the lung" is often the obscured beginnings of destructive disease, it is, in other cases, the starting point for tuberculophobia and anxiety neuroses, conditions that are no less crippling and hardly more easily curable than tuberculosis itself. Max Pinner, M.D., NTA Bull., Jan. 1945.



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Wm. L. Brown, M.D., Director

REPORT PENICILLIN IS EFFECTIVE TREATMENT FOR RAT BITE FEVER

Investigators Recommend Use Of This Drug In Treating This Disease And Also For A Similar One, Haverhill Fever

Penicillin is an effective treatment for rat bite fever, W. A. Altemeier, M.D., Harry Snyder, M.D., and Gertrude Howe, M.D., Cincinnati, report in *The Journal of the American Medical Association* for February 3.

Although rat bite fever is a relatively rare disease of man, there is one form for which no satisfactory treatment agent previously has been available, the investigators point out. This is the form caused by the disease organism Streptobacillus moniliformis. One of the other forms of the disease is caused by the organism Spirillum minus, which responds well to arsenical treatment.

The three investigators say a review of the medical literature reveals only 17 cases of rat bite fever due to Streptobacillus moniliformis in the United States in which the diagnosis was verified by recovery of the organism. In their paper they report 3 additional cases. Penicillin was used in the treatment of these 3 patients, it being the first time the drug had been used for this disease. They say that the response to the penicillin treatment was prompt and permanent in 2 cases but in the third a relapse occurred after the administration of an inadequate amount of penicillin.

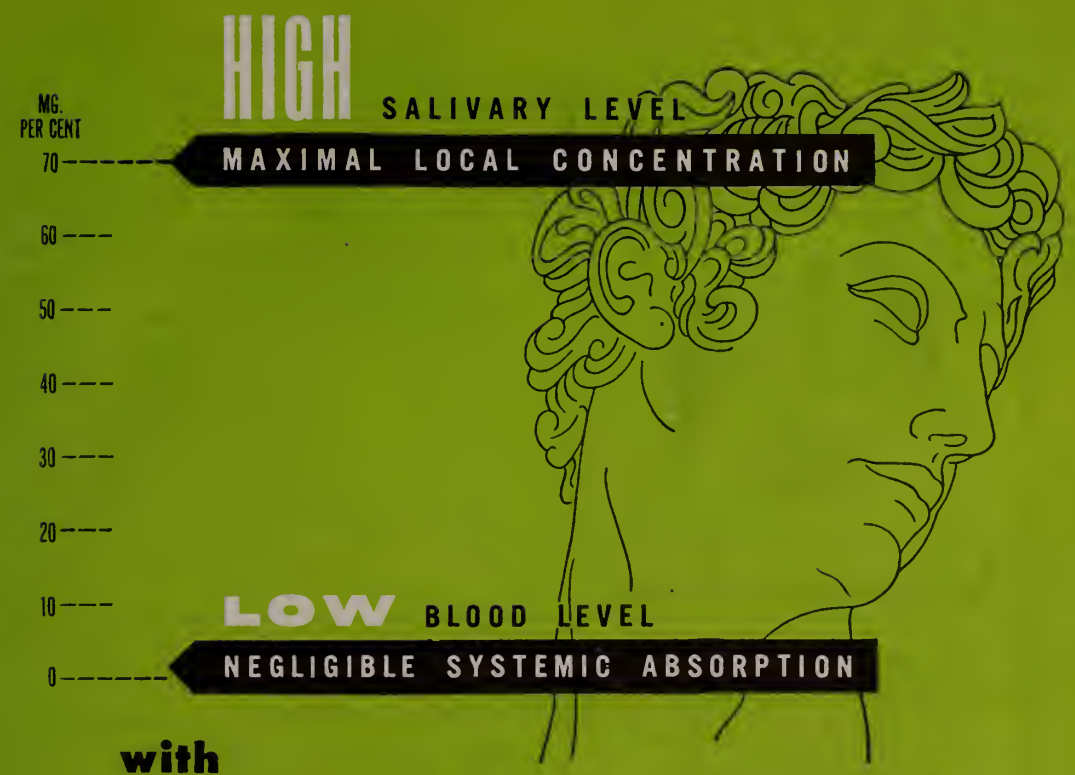
"A comparison of the course of our cases," they say, "with those previously reported gives the impression that penicillin is an effective chemotherapeutic agent which shortens decidedly the course of the disease.

"In the future, treatment with penicillin is recommended in the therapy of rat bite and Haverhill fevers."

Haverhill fever is caused by the same organism as rat bite fever but without the bite of the rat or another animal.

The three investigators explain that there is some tendency in rat bite fever for the disease to clear up spontaneously after a varying number of relapses. Of the 17 cases reported in medical literature up to and including 1943, there were

(*Continued on page* 58)



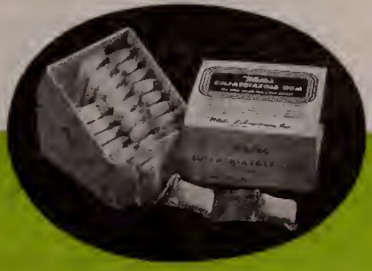
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RAT BITE FEVER (Continued)

2 deaths. Three of the patients were left with persistent arthritis, lasting fifty-three days in one case, eight months in another and for more than two years in the third. In the United States the disease has now been reported in twenty-eight states and the District of Columbia, but the incidence has been greatest in Ohio, Pennsylvania, New York and Illinois. The wild rat is the chief animal source, and, more rarely, the dog, cat, pig, mouse, laboratory white rat and weasel may be the source of infection.

ANOTHER CASE OF VIRUS DISEASE TRACED TO PIGEONS IS REPORTED

Wisconsin Doctor Says Ornithosis Often May Be Confused With Virus Pneumonia Due To Lack Of Proper Diagnostic Facilities

Further evidence that human ornithosis, a disease contracted from pigeons and similar to psittacosis or parrot fever, is more prevalent than is commonly believed and may be present in a fairly high percentage of the recently increasing number of cases diagnosed as virus pneumonia is presented in *The Journal of the American Medical Association* for December 30, together with a report that penicillin proved effective in treating this disease.

F. E. Turgasen, M.D., Manitowoc, Wis., who presents the report, points out that his experience with penicillin seems to bear out the investigations recently reported from the Mayo Clinic in which the drug was definitely curative in a series of experimentally produced ornithosis infections in mice. As he says, the mortality

(*Continued on page* 62)

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ORNITHOSIS (Continued)

rate from the disease, particularly in the older age group, has been consistently high, and treatment with the various sulfonamides has been largely without effect.

Another important point brought out by Dr. Turgasen is that the chief difficulty in establishing the diagnosis of the disease is the lack of convenient laboratory facilities in America for making the necessary tests on the patients' blood serum. He says that "As far as I could ascertain, the laboratory of Dr. K. F. Meyer at the University of California is the only one on this continent that does this work."

Discussing the disease, he says that "Ornithosis and psittacosis are strikingly similar in their clinical manifestations and probably differ only in the source and causative virus. The onset is rather gradual and in many features resembles the onset of typhoid except that diarrhea is not present and an atypical pneumonia with a dry, irritating, unproductive cough soon becomes a prominent feature. . . ."

The case reported by Dr. Turgasen is that of a man, aged 43, who was a pigeon fancier and has had a loft of homing pigeons in his back yard for a number of years. During the past few months, several of the pigeons had died after a short illness with cough, wheezing, ruffled feathers and in some cases diarrhea. He had been caring for the pigeons himself and had used no precautions in handling the dead or ill birds. Seven days before the onset of his illness, he cleaned the loft and inhaled a considerable amount of the stirred up dust. He was treated with penicillin for a period of seven and one-half days, with no other medication being administered. He was admitted to the hospital on August 23 and was discharged on September 2 to his home, where he convalesced, returning to light work two weeks later. He apparently was fully recovered one month after the onset of his illness.

The diagnosis of the disease was confirmed by tests made by Dr. Meyer in San Francisco. Four pigeons were taken from the patient's pigeon loft and examined at the Mayo Clinic laboratories. Two of them were found to have enlarged spleens and from one of them the virus of ornithosis was recovered and identified.

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REPORT EMPHASIZES IMPORTANCE OF THE RH FACTOR IN THE BLOOD

Pregnancy May Cause Hemolytic Reactions When Transfusions Of Positive Type Are Given 8 To 23 Years Later

The importance of the Rh blood factor in pregnancy is emphasized in a paper in *The Journal of the American Medical Association* for March 17 reporting that when women are given transfusions of Rh positive blood from eight to twenty-three years after their last pregnancies hemolytic reactions may result. This evidence that pregnancy may cause permanent sensitivity to the Rh factor when a woman with an Rh negative type receives a transfusion of Rh positive blood, thus causing a reaction in which the red blood cells are destroyed, is reported by Lawrence E. Young, M.D., and Donald H. Kariher, M.D., of Rochester, N. Y.

These observations and the cases reported in the study support the recent conjecture that immunization produced by the Rh factor during pregnancy probably persists for life.

"Transfusion reactions," the two physicians warn, "due to Rh incompatibility may be typical or they may be bizarre, and therefore minor reactions can easily go undetected. However, if the Rh negative patient who has this minor reaction is given another transfusion of Rh positive blood she may have a more violent reaction which could prove fatal. It is of the utmost importance therefore to investigate all reactions, minor or severe, so that the exact cause can be determined and a recurrence of the accident, perhaps in a more severe form, be prevented."

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The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used unless patient desires same.

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RED CROSS RELEASES GAMMA GLOBULIN FOR MEASLES PREVENTION AT NO COST

"Immune serum globulin (gamma globulin) for the prophylaxis, modification and treatment of measles," *The Journal of the American Medical Association* for March 10 reports, "is now available for the civilian population through an appropriation by the American Red Cross as announced by Mr. Basil O'Connor, chairman of the Central Committee of the American Red Cross. This action is in keeping with the policy of the American Red Cross to return to the American people, as far as practicable, any useful blood derivatives accumulated in excess of military needs as a result of its blood donor program.

"The serum globulin will be supplied without charge to state and territorial health departments or local health departments where biologic products are not supplied by the state, provided the globulin will be distributed without charge to physicians, hospitals and clinics, and provided it will be administered in accordance with established standards and without any charge to the patient for the globulin.

"As announced in the July 1, 1944 issue of *The Journal,* health departments assumed the costs of processing and distributing immune serum globulin. Under the new plan the entire cost of processing and distributing the product is now borne by the American Red Cross.

"The crude serum globulin fraction thus made available is derived as a by-product from processing serum albumin under Navy control. It has been declared surplus and assigned by the Navy to the American Red Cross for distribution.

"Eligible health agencies are being requested to place their orders promptly with National Headquarters, American Red Cross, Washington, D. C., attention of Dr. G. Foard McGinnes, National Medical Director."

As a method of tuberculosis case-finding, the screening of large groups of apparently healthy individuals by means of chest X-rays is here to stay. It should not replace the recognized routine methods of case-finding by means of examination of individuals who have been in close association with tuberculous patients or who have symptoms referrable to the lungs. Rather, it should serve as an excellent auxiliary method for the discovery of new cases and in that way provide to health departments many additional opportunities for the promotion of their tuberculosis control programs. William Siegal, M.D., "Health News", Nov. 13, 1944.

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REFERENCES – **1** West. J. Surg. & Gyn., 51:150, April, 1943. **2** Clin. Med. & Surg., 46:327, August, 1939. **3** Med. Rec., 155: 316, 1942. **4** Crossen, H.S. and R. J.: Diseases of Women, C. V. Mosby Co., St. Louis, 9th ed., 1941.

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The ILLINOIS Medical Journal

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The active ingredients of Calmitol are camphorated chloral, menthol and hyoscyamine oleate in an alcohol-chloroform-ether vehicle. Calmitol Ointment contains 10 per cent Calmitol in a lanolin-petrolatum base. Calmitol stops itching by direct action upon cutaneous receptor organs and nerve endings, preventing the further transmission of offending impulses. The ointment is bland and non-irritating, hence can be used on any skin or mucous membrane surface. The liquid should be applied only to unbroken skin areas.

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LYNORAL

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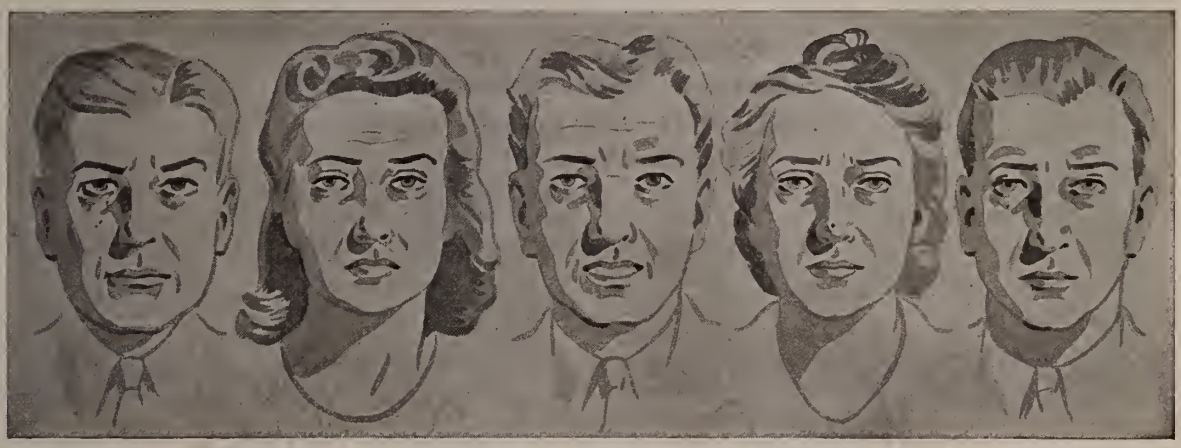
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*F. E. Harding, Am. J. Obst. & Gynec., 48:181, 1944.

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—New and Nonofficial Remedies: Allergenic Preparations, Chicago, American Med. Assoc., 1944, p. 56.



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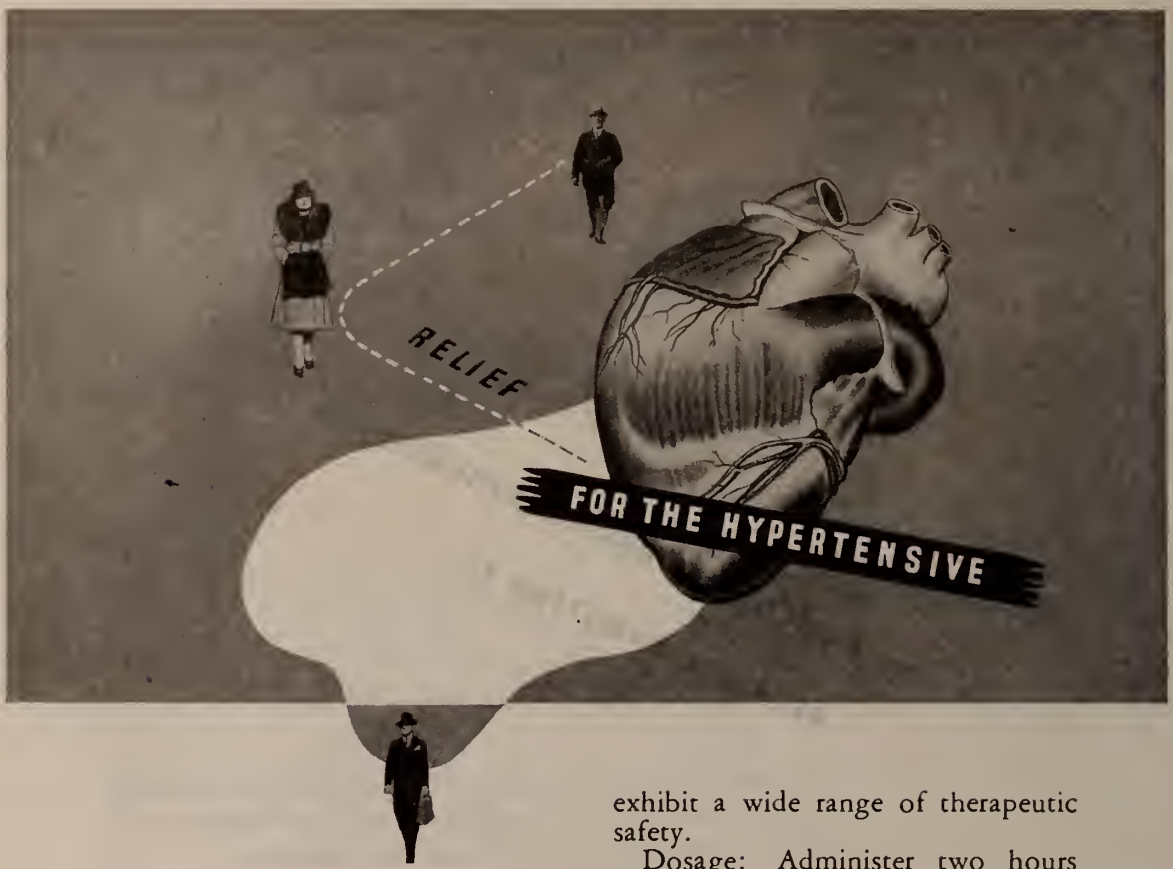
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Gentlemen: I would like to receive a complimentary clinical trial supply of Syntronal 'Roche,' the new sedative-antispasmodic.

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Effective, safe,

LOCAL chemotherapy

HIGH LOCAL CONCENTRATION



LOW SYSTEMIC ABSORPTION



High Local Concentration: One pleasantly flavored Sulfathiazole Gum tablet chewed for *one-half to one hour* promptly provides a high concentration of locally active sulfathiazole (average 70 mg. per cent) *that is maintained throughout the chewing period.*

Low (negligible) Systemic Absorption: Blood levels of the drug, even when maximal dosage is employed, are almost negligible—rarely reaching 0.5 to 1 mg. per cent.

* *A product of* **WHITE LABORATORIES, INC.** *pharmaceut*

in oropharyngeal infections

HIGH and PROLONGED salivary concentration of sulfathiazole is brought directly to the site of oral and pharyngeal infections following the use of—

White's SULFATHIAZOLE GUM*

Even a single tablet of White's Sulfathiazole Gum chewed for *one-half to one hour* provides a high concentration of locally active sulfathiazole. The medication is brought into immediate and *prolonged* contact with oropharyngeal areas which are not similarly reached by ordinary measures of topical chemotherapy. Moreover, resulting blood levels of the drug, even with maximal dosage, are so low that systemic toxic reactions are virtually obviated.

INDICATIONS: Local treatment of sulfonamide-susceptible infections of oropharyngeal areas:

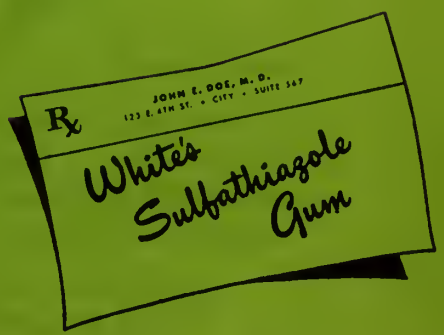
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Also indicated in the prevention of local infection secondary to oral and pharyngeal surgery.

DOSAGE: One tablet chewed for *one-half to one hour* at intervals of one to four hours depending upon the severity of the condition.

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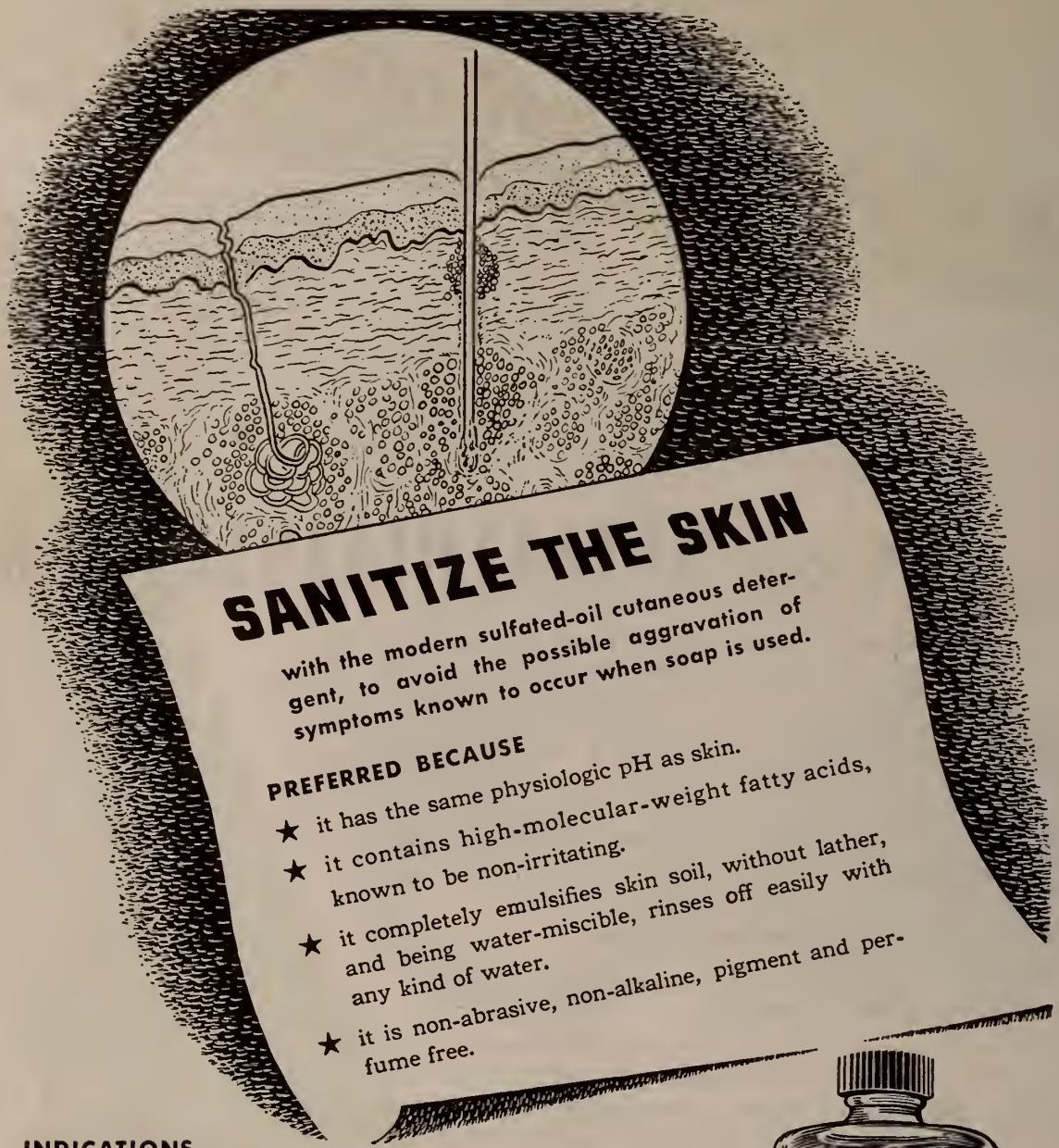




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SANITIZE THE SKIN

with the modern sulfated-oil cutaneous detergent, to avoid the possible aggravation of symptoms known to occur when soap is used.

PREFERRED BECAUSE

★ it has the same physiologic pH as skin.

★ it contains high-molecular-weight fatty acids, known to be non-irritating.

★ it completely emulsifies skin soil, without lather, and being water-miscible, rinses off easily with any kind of water.

★ it is non-abrasive, non-alkaline, pigment and perfume free.

INDICATIONS

1. Detergent in dermatologic disease . . . 2. Detergent for soap-irritable skin . . . 3. Removal of excessive natural and residual medicinal oil and grease from skin, scalp, and hair . . . 4. Soapless surgical scrub-up . . . 5. Management of acne vulgaris.



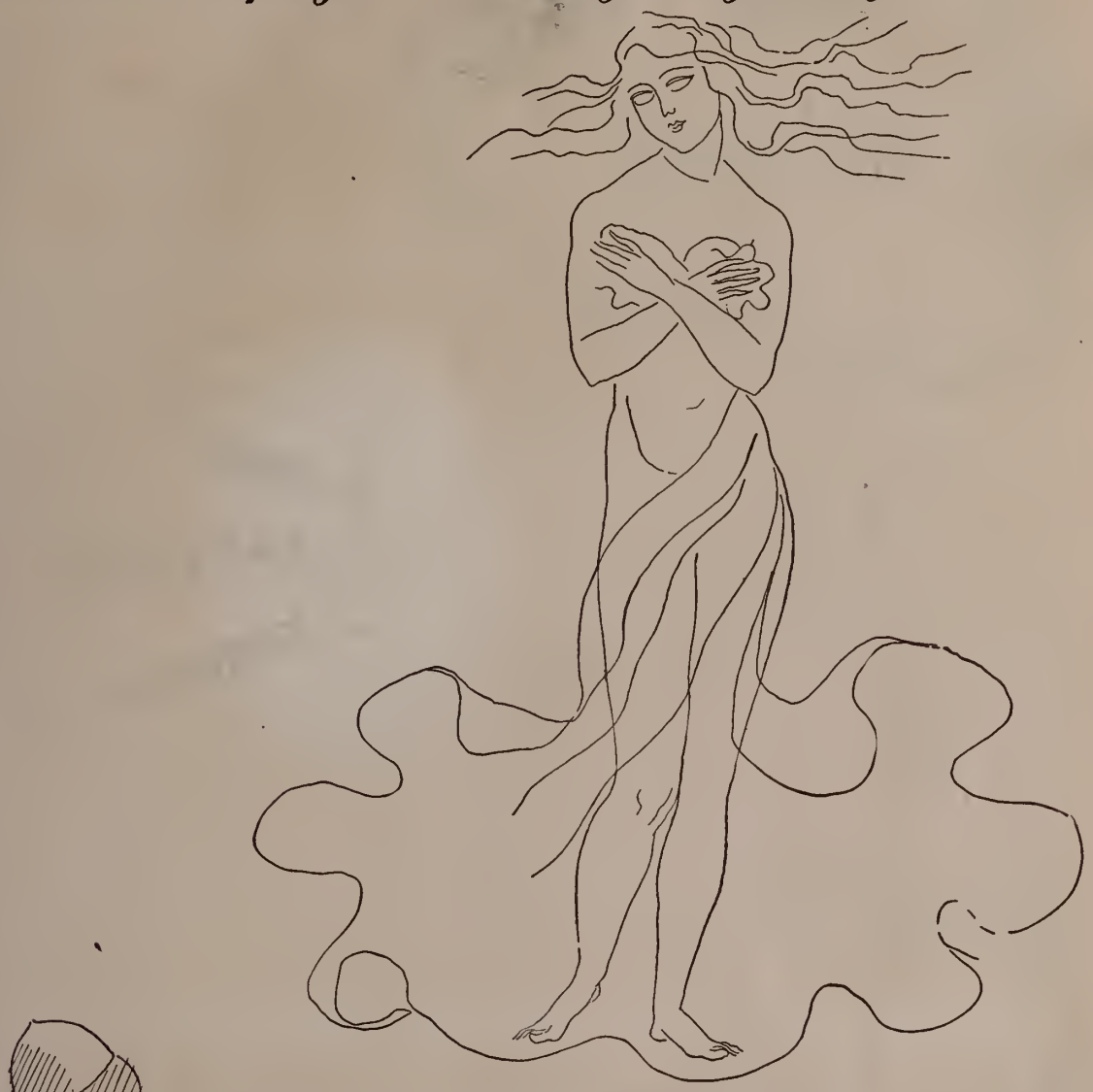
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ACIDOLATE
FOR CONDITIONS BENEFITED BY A SOAPLESS REGIMEN

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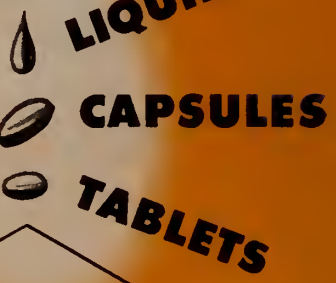
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TRASENTINE*-PHENOBARBITAL attacks spasm of the abdominal and pelvic viscera in three ways:



- **Direct local action on smooth muscle**



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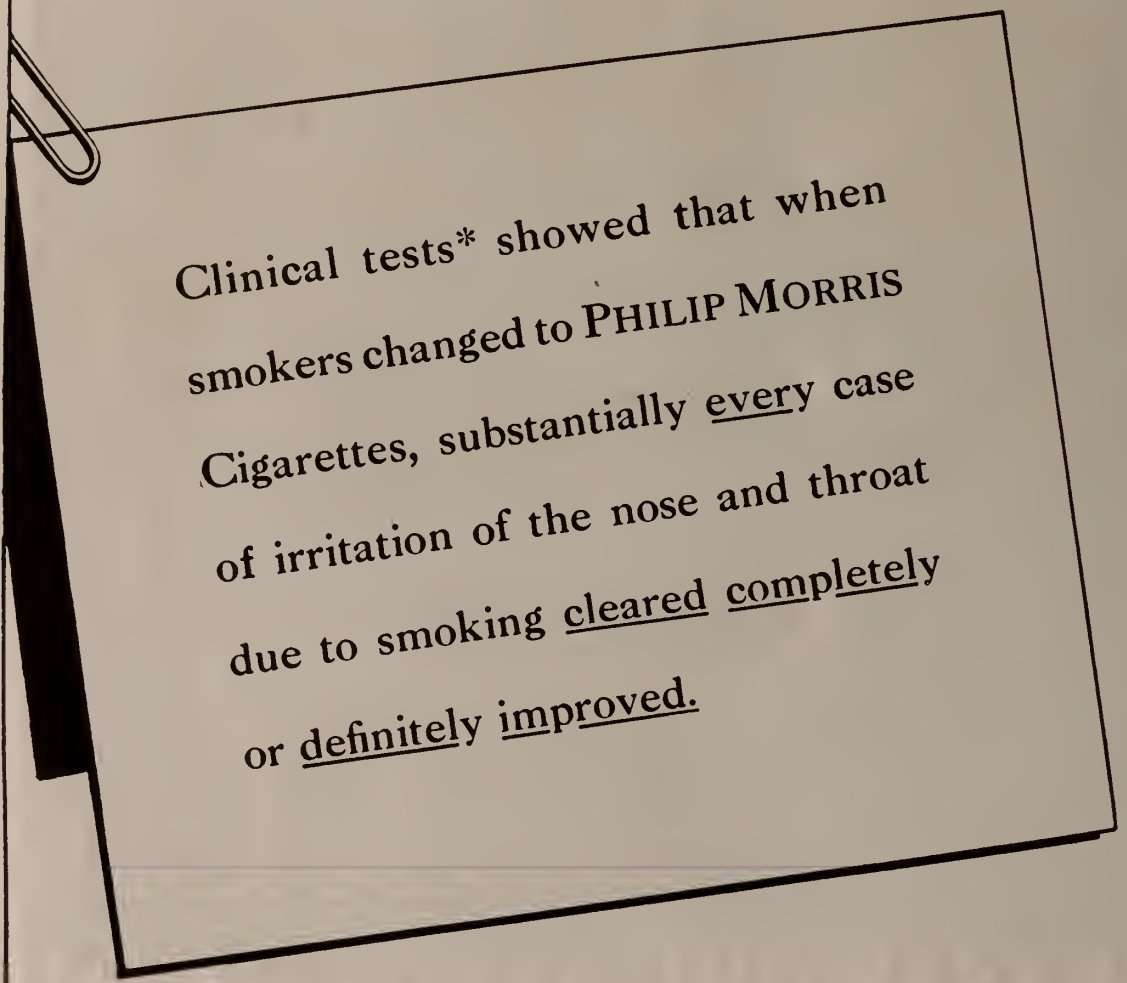
Each tablet contains 20 mg. of TRASENTINE (hydrochloride of diphenylacetyldiethylaminoethanol) and 20 mg. (1/3 gr.) of PHENOBARBITAL.

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2—149-154.

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. . . for quick relief from diarrhea

There are many diseases of the gastrointestinal tract in which diarrhea is a symptom. Before specific treatment is begun, however, the physician frequently finds it necessary to check the diarrhea quickly in order to prevent the loss of body salts and water. For this purpose, KAOMAGMA acts promptly and safely.

KAOMAGMA consolidates fluid stools.

KAOMAGMA coats and protects irritated mucosa.

FOR DIARRHEA CONTROL administer two tablespoonfuls of Kaomagma Plain, in a little water, at the onset. Follow with one tablespoonful after each bowel movement.

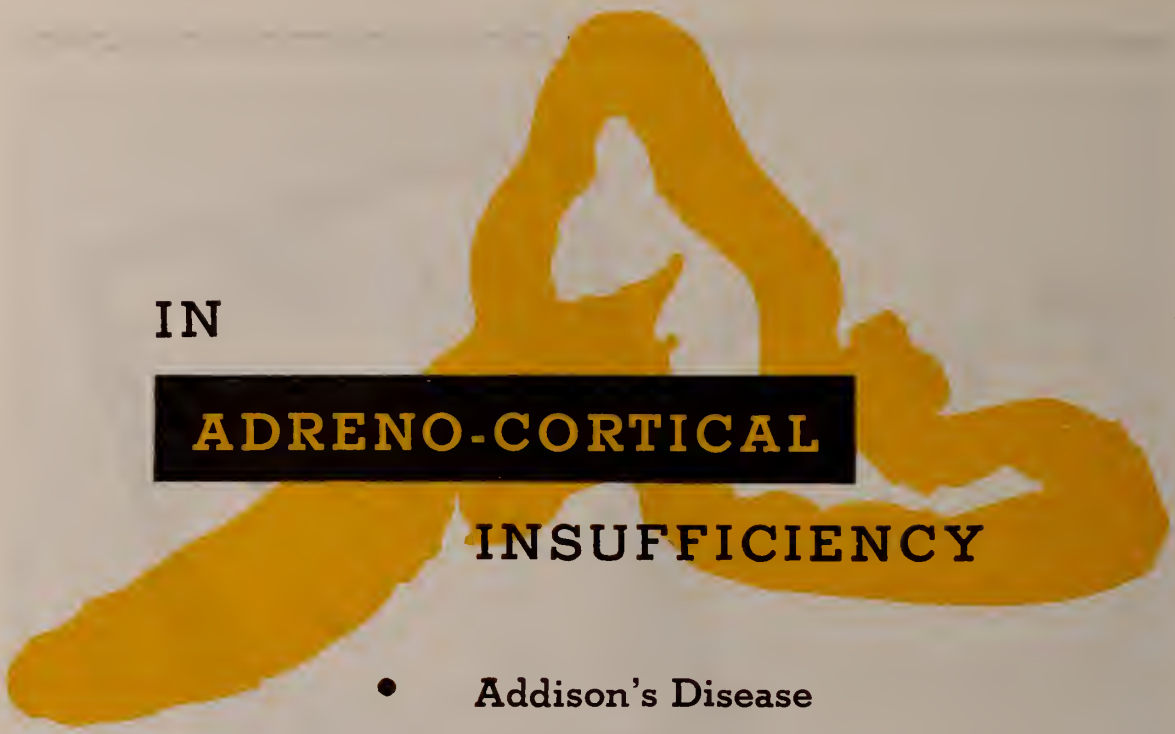


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- Addison's Disease
- Certain types of asthenia and other disorders associated with a deficiency of the adreno-cortical hormone

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Penicillin DOSAGE TABLE*

INDICATIONS	INITIAL DOSE (UNITS)	CONTINUING DOSAGE (UNITS)	UNITS IN 24 HR.	REMARKS
Serious Infections (staphylococcus, clostridium, hemolytic streptococcus, anaerobic streptococcus, pneumococcus, gonococcus, anthrax, meningococcus) Adults and children	15,000 to 20,000	(a) Intravenous drip: 2000 to 5000 every hr.	40,000 to 120,000 or more	(a) Dissolve ½ of 24 hr. dose in 1 liter (1000 cc.) normal saline; let drip at 30 to 40 drops per minute.
		or (b) Intramuscularly: 10,000 to 20,000 every 3 or 4 hr.	40,000 to 120,000 or more	(b) Concentration: 5000 U. per cc. normal saline.
		or (c) Intramuscular drip	40,000 to 120,000 or more	(c) Total daily dose in 250 cc. normal saline.
Infants	5000 to 10,000	3000 to 10,000 intramuscularly every 3 hr.	20,000 to 40,000 or more	Each dose in 1 or 2 cc. of normal saline.
Chronically infected compound injuries, osteomyelitis, etc. Adults and children	5000 to 10,000	10,000 every 2 hr. or 20,000 every 4 hr. intramuscularly or intravenously. Larger doses may be necessary at times.	40,000 to 120,000 or more	Concentration for intramuscular inj.: 5000 U. per cc. normal saline. For intravenous inj.: 1000 to 5000 U. per cc. Supplement with local treatment.
Gonorrhea	20,000 every 3 hr. intramuscularly for 5 doses		100,000	Results of treatment should be controlled by culture of exudate.
Empyema Adults and children	30,000 to 40,000 once or twice daily into empyema cavity		30,000 to 80,000	Dissolve in 20 to 40 cc. normal saline and inject into empyema cavity after aspiration of pus.
Meningitis Adults and children	10,000 once or twice daily into subarachnoid space or intracisternally		10,000 to 20,000	Concentration: 1000 U. per cc. normal saline.
Bacterial Endocarditis Adults and children	25,000 to 40,000	25,000 to 40,000 every 3 hr. intramuscularly	200,000 to 300,000	Continuous treatment for 3 weeks or longer. In a few cases the intravenous drip is more advantageous.

*Based upon recommendations by Chester S. Keefer, War *Production Board Penicillin Leaflet*, Apr. 1, 1945; and by Wallace E. Herrell and Roger L. J. Kennedy, *Journal of Pediatrics*, 25:505, Dec., 1944.

● *Write for pocket size copies of this Dosage Table*

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Penicillin Sodium–Winthrop is available in vials (with rubber diaphragm stopper) of 100,000 Oxford Units.

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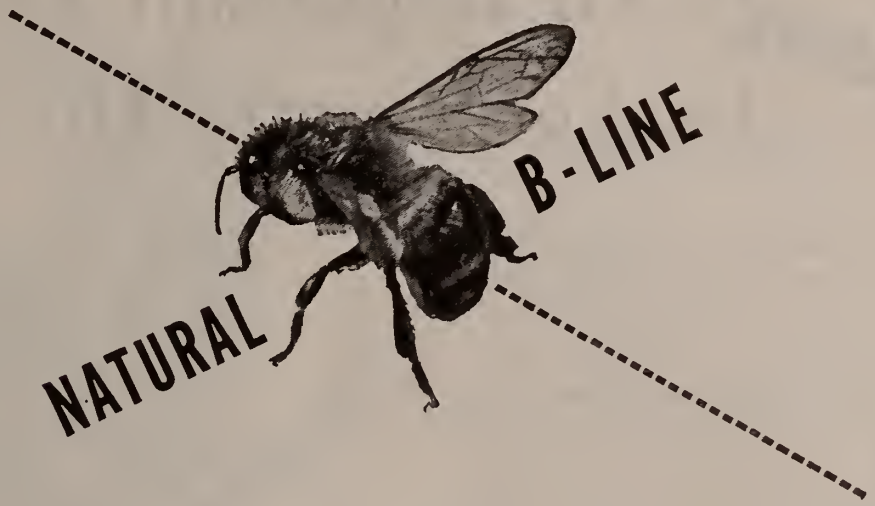
The heart that feels not now, is dead:
The blood of his children
shall curse his cowardice,
who shrinks back at a time when
a little might have saved the whole,
and made them *happy.* THOMAS PAINE

STAY ON THE JOB
BUY WAR BONDS



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FINE PHARMACEUTICALS SINCE 1886

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Speedy remission of symptoms in secondary anemia is of primary importance to the patient. Hemoglobin restoration and return of well-being are hastened when therapy not only provides iron, but also compensates for the other deficiencies usually manifested in anemias of this type.

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Each fluidounce of Livitamin presents:

Fresh Liver (as Liver Concentrate)	2 oz.
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Nicotinamide (Niacinamide)	25 mg.
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Iron and Manganese Peptonized	30 gr.

Contains the vitamin B complex factors naturally occurring in liver and rice bran, fortified with synthetic B_1, niacinamide, B_2, B_6, pantothenic acid and with iron and manganese.

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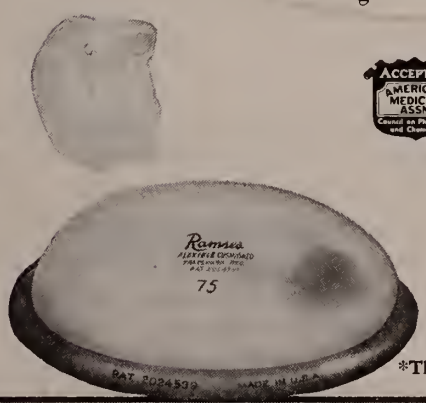


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This velvet-smoothness lessens the possibility of irritation during use.

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When Radiography Called For 1-Man-Power Kv.p.

Recalling the period shortly after Roentgen's famous discovery, is this depiction of how the progressive contemporary physician, inspired by the possibilities with x-rays in medicine, proceeded to obtain a radiograph of his patient's hand.

A crude set-up, as you see, yet it served his purpose —even though this two-plate static machine had to be manually cranked for a half-hour to produce a "skiagraph" of the hand!

To fully appreciate how far x-ray science has since advanced, consider today's facilities for producing chest radiographs in 1/60-second or less, and of 8-inch steel castings in 3 1/2 minutes!

Looking back upon this half-century of progress, we of the G-E organization enjoy a profound satisfaction in having been privileged to collaborate with the radiological profession and industrial engineers toward continual advancements in this science; while pledging anew our facilities for research and development as they may in the future serve the mutual interests.

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The *Effectiveness* of ANTISYPHILITIC THERAPY

depends not on disappearance of spirochetes alone





nor merely the reversal of positive Wassermann reaction



but on whether the treatment is such that within the shortest possible time the patient receives maximum protection against relapse and the infection of others.

PEOPLE who feel well balk at the idea of taking weekly injections, particularly if the injections are painful or make them feel ill. Therefore, once the early signs of syphilis disappear, many patients become indifferent to treatment. A recent survey shows that:

only 1 out of 4 clinic patients with early syphilis, undergoing the standard 70-week course, continues treatment long enough to receive minimal protection against infectious relapse.

A realistic approach to the problem is provided by the use of Mapharsen, a rapidly administered arsenical that minimizes the discomfort of injections; one which is well tolerated by the patient; and one which gives a high degree of protection in a short period of time. Consideration of these factors increases the possibility of securing sufficient cooperation on the part of the patient to insure the continuance of therapy beyond the point where relapse or the infection of others is possible.



Whatever method you choose, use

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Meta-amino-para-hydroxyphenylarsine oxide (arsenoxide) hydrochloride

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The physician prescribing Biolac is certain of this... the nutrition of his Biolac Babies "measures-up" to optimum standards.

For Biolac (supplemented with vitamin C) is a *complete* infant formula. Adequate vitamins A, B_1, B_2 and D, as well as iron and carbohydrate eliminate calculating extra formula ingredients. The high-protein level of Biolac provides for normal growth and optimum health. Because of the scientifically adjusted milk-fat content, Biolac is readily assimilated—with a minimum of fat upsets. Small, soft curds and ample lactose assure ease of digestion and a natural stool closely resembling that from human milk.

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LIVER INJECTION U. S. P.

Favorable hematopoietic response is observed with parenteral use of this sterile, purified, clinically-assayed liver solution. CHEPLIN LIVER INJECTION gives the degree of reticulocyte response and erythrocytic maturation desired in treating pernicious anemia in relapse. Also supplied for maintenance of restored blood levels in pernicious anemia and in treatment of certain other macrocytic anemias. *Literature on request.*

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2.5 U.S.P. injectable units per cc. in 2 cc. ampules, 10 cc. and 30 cc. vials.

10 U.S.P. injectable units per cc. in 5 cc., 10 cc. and 30 cc. vials.

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PENICILLIN—*The "accidental" discovery that calls for "accident-proof" production*

The contamination of a bacterial culture with *Penicillium notatum*, observed by Fleming was an "accident". The production of penicillin for the medical profession, however, calls for the most rigid control to prevent any "accident" which might impair its potency and purity.

Now that the penicillin you order is a matter of personal choice, the confidence with which you specify any brand is inextricably bound to the program of control safeguarding its production.

As this photograph of the "seeding" of *Penicillium* culture shows, elaborate precautions are observed at every step at Schenley Laboratories in the production of Penicillin Schenley.



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ILLUSTRATION BY ARTHUR SARNOFF

DOCTOR MOORE WILL MAKE IT WELL

It didn't take Mary long to decide what to do when Jimmy fell from his coaster wagon. A bruised knee, a frightened, crying child caused her no alarm. Whenever anything went wrong at Mary's house it was always Doctor Moore who was called. Somehow or other he always had the solution to the problem. How fortunate, then, that Jimmy's accident occurred near Doctor Moore's office. And how natural that her first thought should be of him. Hers was a confidence born of experience.

Doctors, too, must have confidence at times. They can't maintain control laboratories to test the thousands of medicinal agents available to them. It is infrequent, indeed, that they are in position to operate clinics for actual trial. Few doctors can also function as chemists, biologists, botanists, and pharmacologists. For the service which these scientists render, the physician must depend on the large producers of medicinal agents.

Eli Lilly and Company likes to feel that it renders to physicians a service unexcelled in its field. It likes to feel, also, that physicians everywhere have the same confidence in the Lilly Label that little Mary has in Doctor Moore.

Lilly



SPECIFIC *Therapy*

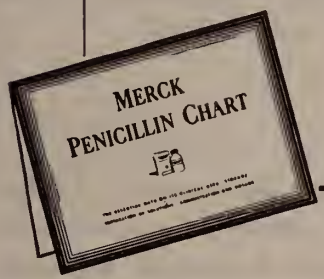
In order to maintain health, pernicious anemia patients must receive adequate medication at regular intervals. Early in the field of liver extract production, Eli Lilly and Company continues to make available to the medical profession crude and purified liver extracts for intramuscular injection.

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In this notable production achievement, Merck & Co., Inc. has been privileged to play a pioneering and progressively important rôle. Basic discoveries made by Merck microbiologists, and shared with other Penicillin producers, contributed vastly to the successful development of Penicillin manufacture. By applying chemical engineering technics to the manufacture of this difficultly produced antibiotic agent, Merck independently succeeded in devising and perfecting a practical method of large-scale production based on the mass-fermentation principle.

Penicillin Sodium Merck meets the recognized high standard of quality established for all products bearing the Merck label.

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Council Accepted

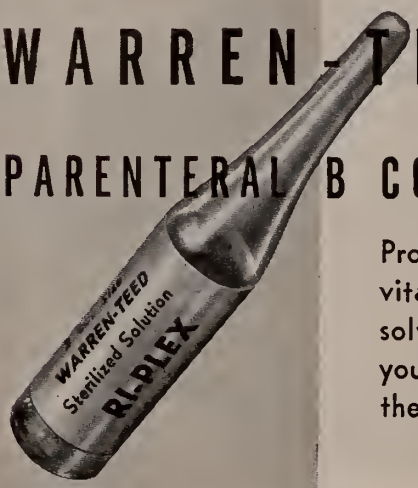
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FOR ASSURED ASSIMILATION

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PARENTERAL B COMPLEX ADMINISTRATION



Proper assimilation and utilization of needed vitamin B complex is a problem sometimes solved only by parenteral administration. In your practice, Warren-Teed Ri-Plex can offer the solution to such conditions as these:

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At least two of the vitamin B complex factors are beneficial — Ri-Plex administered parenterally insures proper assimilation.

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Riboflavin and nicotinamide appear to be factors necessary for the production and regeneration of blood. A vitamin B complex deficiency may cause secondary anemia indirectly through the anacidity it develops.

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The vitamin B complex in therapeutic doses often corrects gastro-intestinal malfunction — and parenteral administration of Ri-Plex insures complete assimilation and utilization.

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Each 2 cc. Ri-Plex Ampul contains:
Thiamine Hydrochloride 10 mg.
Riboflavin 4 mg.
Nicotinamide 150 mg.
Pyridoxine Hydrochloride 5 mg.
In Isotonic Solution of Sodium Chloride.
Supplied in 2 cc. ampuls in boxes of 12 and 25.

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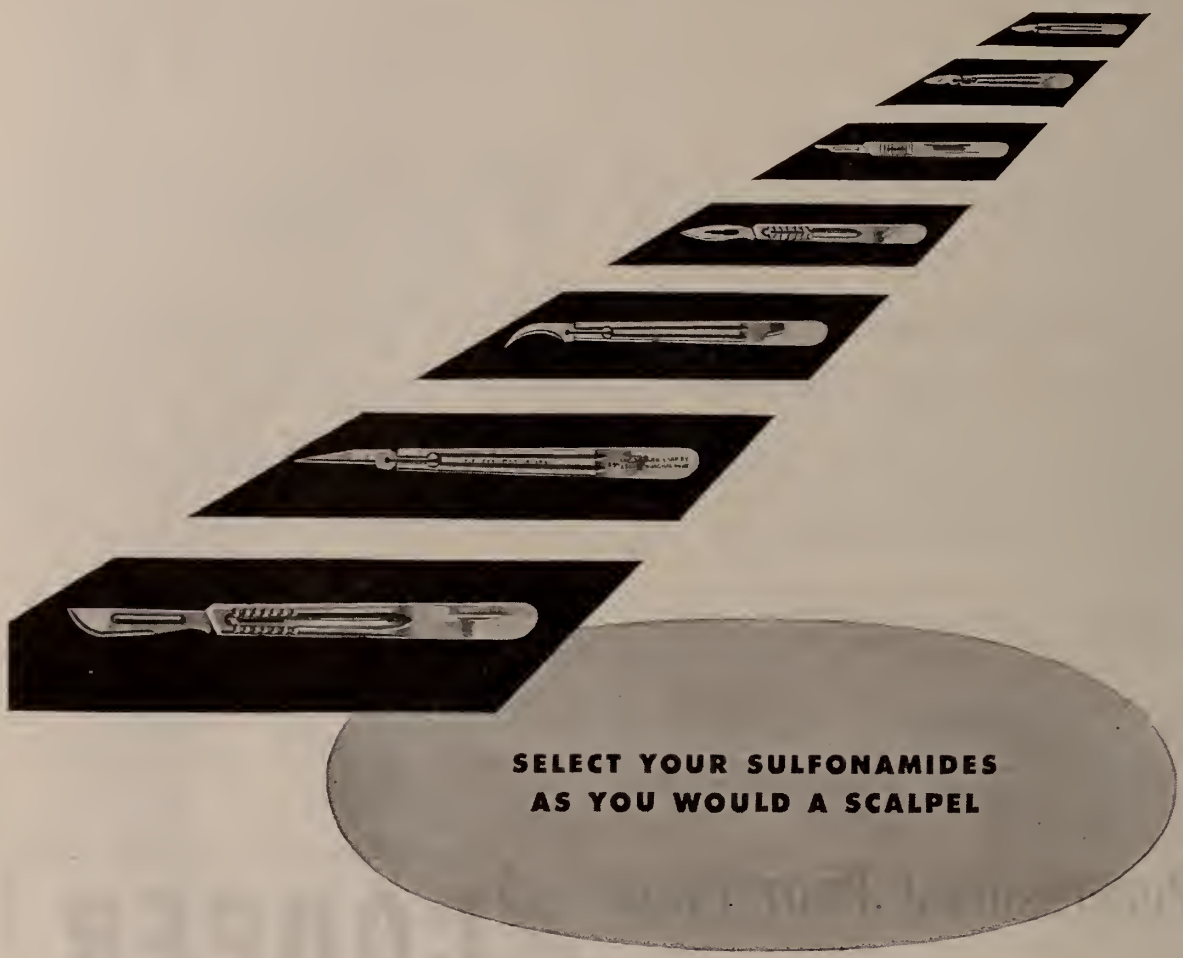
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Sulfonamides, Lilly, for systemic and local administration, are provided in a complete variety of dosage forms for every indication. They are quickly available through the drug trade.

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The Illinois Medical Journal

May, 1945

VOL. 87, NO. 5

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

THE 1945 ANNUAL MEETING

At the regular March meeting of the Council of the Illinois State Medical Society it was voted unanimously to cancel all plans for the annual meeting to be held in May but to endeavor to get approval for a meeting in August. If permission is received the dates selected are August 14, 15, 16. In the event that an annual meeting is not held this year, the House of Delegates will meet in Chicago during August and all county medical societies will be notified promptly of the plans, the place of the meeting and the dates.

The annual reports will be published as usual and a copy will be sent to each member of the House of Delegates so that it may be studied before the meeting is held, and so that proper action on each report may be taken at the proper time. The chairmen of all annual meeting committees will continue to function, arranging their respective programs. If the annual meeting is not held, so far as scientific section meetings are concerned, the papers prepared will be published in the Illinois Medical Journal so that all members of the State Medical Society may read them.

The transactions of the House of Delegates will be published in the Journal early in the fall or as soon as possible following the meetings of the House. Much consideration will be given at the meeting to the men in service and every effort will be made to assist these men in every way possible as soon as they are dismissed from service and ready to re-enter private practice. Likewise those younger Illinois physicians in service who were not formerly in private practice will be given every possible aid in the selection of a desirable location.

At this time there are many communities in Illinois, large and small, where additional physicians are needed and where there will be a place for the men willing to be relocated now. With approximately 4,500 Illinois physicians in service and the majority of those remaining in civilian work in the older age brackets, it seems probable that many of these men, now overworked, will retire from practice when replacements are available. They will be willing to aid their successors in every way possible, especially those younger men who have voluntarily heeded the call of the Army, Navy and Public Health Service for medical officers during the present emergency.

As soon as decisions are made relative to the annual meeting, or of the meeting of only the House of Delegates, all county medical societies will be notified and complete information will be given through the columns of this Journal. The Illinois State Medical Society and its thousands of members are desirous of cooperating with our government and will abide by its decision when application is made for permission to hold our 1945 annual meeting.

PREPAYMENT MEDICAL CARE PLANS

At this time plans are under way in nearly every state to make a thorough study and to develop plans for medical care on a prepayment

basis. Some twelve state plans have been placed in operation and others will begin operation in the near future. The Illinois State Medical Society has a committee which has been studying this important subject since September, 1944, and much interesting information has been compiled.

On Sunday, April 22nd an all day conference was held in Chicago with members of the committee present and having as guests, representatives from similar committees or officials of plans in operation in Michigan, Wisconsin, Iowa, Missouri and Indiana. Michigan has had their Michigan Medical Service in operation since 1941! a plan has been operating in Milwaukee County, Wisconsin for approximately 18 months; new plans are now being started in Missouri and Iowa, while in Indiana the study is being continued and they propose to have a meeting of their House of Delegates in the near future to receive a final report and the recommendations of their committee.

Representatives were present from Rockford where the Winnebago County Medical Society has approved a plan operating under supervision of the society, and the insurance being issued by an insurance company. The plan in operation only a few months, is getting a good start with several thousand subscribers enlisted at this time.

The A.M.A. Council on Medical Service and Public Relations has been cooperating in the studies and the development of plans in various states, and has endeavored to aid the Illinois committee when called upon for information and advice. When this Council was formed in 1943 six directives were received from the A.M.A. House of Delegates:

(1) To make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people;

(2) To inform the constituent associations and component societies of proposed changes affecting medical care in the nation;

(3) To inform constituent associations and component societies regarding the activities of the Council;

(4) To investigate matters pertaining to the economic, social and similar aspects of medical care for all the people;

(5) To study and suggest means for the distribution of medical services to the public con-

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sistent with the principles adopted by the House of Delegates, and

(6) To develop and assist committees on medical service and public relations originating within the constituent component societies of the American Medical Association. In the exercise of its functions, this Council, with the cooperation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, The Bureau of Medical Economics and the Department of Public Relations in the Headquarters Office.

At the 1944 annual meeting of the A.M.A. House of Delegates the Council on Medical Service and Public Relations recommended that there be employed a director of medical prepayment insurance with such assistants as may be necessary, and this recommendation was approved by the House. It is therefore quite obviously one of the functions of this Council to render assistance to state societies desiring to study and eventually develop a plan for their respective states to provide medical care on a prepayment basis for those in relatively low income groups.

The Illinois State Medical Society Committee will submit a report to the House of Delegates at its next meeting and will be prepared to give freely from the amount of information which has been accumulated as may be requested by the House.

The development of a plan or plans in Illinois therefore, will be subject to the orders received from the House of Delegates. Actually our Committee has been designated as a fact-finding committee, and in that capacity will submit its report in much detail when the House convenes.

THE NEED FOR PLANNING THE ECONOMIC REHABILITATION OF THE TUBERCULOUS

A great deal of thinking and planning is being done regarding post-war physical, mental and economic rehabilitation of men and women in the armed services. To the contrary, little or no planning is taking place for the physically handicapped who are serving on the home front despite their physical limitations.

As is well known, there are arrested, apparently arrested, quiescent, and even mildly active tuberculous individuals who are doing their part by taking on war jobs and working long hours in war industries. Some of these people have already relapsed, others will no doubt follow suit and become active cases, and will transmit their disease to their fellow-workers.

The public health aspect of economic rehabilitation of the tuberculous patient has not been given the consideration that it merits by those who are responsible for the control of tuberculosis. Looking back into the history of the problem, one discovers that official agencies have consistently underestimated the significance of rehabilitation; and even today comparatively few public health officials recognize its importance. Thousands of dollars are spent annually to allay symptoms and to check progress of this disease, yet the importance of appropriating funds for the purpose of safeguarding patients from relapse after discharge from the sanatorium is not appreciated.

The economic status of the majority of tuberculous patients is such that immediately after their discharge from the sanatorium they are prematurely compelled to accept full-time employment, which frequently is unsuited to their work capacity. Inevitably such premature, full-time, unsuitable work promotes a reactivation of the disease, leading to infection to the household and other contacts, thus creating a breach in the defenses against its spread in the community.

Those who are interested in the control of tuberculosis must ultimately realize that the supervision of the tuberculous individual must not end with his discharge from the sanatorium. The great number of relapses and the many deaths which occur within a relatively short time after discharge from the sanatorium make one wonder whether much of the good work of the sanatoria and a considerable amount of public funds are not being wasted.

It should be clearly brought home to the responsible agencies that to prevent infection to the workers in industry, to the community in general, and to reduce mortality, we must prevent relapses; to avoid relapses, it is imperative to provide social and economic security for the tuberculous individual after his discharge from the institution. Such security can in a large measure be achieved if, through the medium of vocational training during convalescence, the patient has been prepared to bridge the gap between the measured pace of sheltered sanatorium life and the accelerated momentum of industrial life.

It is to be hoped that from the many relapses that will unfortunately take place during the period of war, the lesson will be driven home more forcefully that the *economic rehabilitation* of the tuberculous must be a part of any program for the control of tuberculosis. No person can remain physically well if he is not economically rehabilitated to enable him to select the type of work compatible with his physical condition. It should be borne in mind that the economically maladjusted tuberculous individual remains a potential reservoir of infection and therefore a potential menace to the family, the industrial worker and the community at large. Dr. H. I. Spector, F.C.C.P., *Diseases of the Chest, Volume X, No. 2, March-April,* 1944.

Not many sounds in life, and I include all urban and rural sounds, exceed in interest a knock at the door.—*Charles Lamb*

State Department of Public Health

THE STATE PUBLIC HEALTH SERVICE

Roland R. Cross, M.D., Director of Public Health

(This is the first of a series of articles on the history of the Department.)

The official State public health agency, now known as the State Department of Public Health but formerly as the State Board of Health, is in fact the robust child and offspring of the organized medical profession of Illinois. Born of the General Assembly of 1877 it may be said to have been conceived by the Aesculapian Society of the Wabash Valley in 1856 after death in infancy had followed several previous attempts at establishing by legislation an official State health agency. From the outset it has been nurtured and guided by physicians but not always with the unqualified blessings of its natural parent. In the main, however, its policy and program have reflected the fundamental desire and purpose of the medical profession, as there is no conflict between the two in ultimate aims. Happily the pendulum has swung to the point where at present the relations between organized medicine and the Department are most cordial and cooperative, as they should be always.

The first ill-fated attempt to establish an official State health agency took place in Territorial days when in 1817 the Territorial General Assembly passed an ordinance regulating the practice of medicine. Dr. George Fisher was Speaker of the House at that session and Ninian Edwards, Territorial Governor at the time, had served out his apprenticeship in medicine. Presumably these two doctors had a great deal to do with the enactment of that first law which along with all other Territorial statutes fell by the wayside upon the creation of the State in 1818.

In 1819 the first State General Assembly passed a law, sponsored by Dr. George Cadwell, a prominent and useful citizen of that day, regulating the practice of medicine and requiring the reporting of births, deaths and diseases. Again in 1825 the General Assembly passed a law regulating the practice of medicine, the moving spirit behind which was Dr. Conrad Will. Both laws were promptly repealed by the next succeeding General Assembly, respectively.

Solid progress toward the creation of a permanent, official State health agency began in 1856 when the Aescupalian Society of the Wabash Valley, originally organized in 1846 as the Lawrenceville Aescupalian Society, appointed a committee to go before the General Assembly with a request that a law regulating the practice of medicine and requiring the registration of births, and deaths be enacted. Again in 1861 the same Society appointed a committee for the same purpose.

At the annual meeting of the Illinois State Medical Society in May, 1876, was read a communication from the Jersey County Medical Society advocating the creation of a State Board of Health for the purpose of regulating the practice of medicine and the collection of birth and death reports. On the program of the same meeting Dr. E. W. Gray of Bloomington, read a paper, addressed to the people of the State, proposing the establishment of a State Board of Health with power not only to regulate medical practice but to engage in public health service, particularly with reference to sanitation.

As a result, Dr. Gray was appointed by the Illinois State Medical Society as chairman of a

committee to memorialize the General Assembly as to the desire of the Society that a State Board of Health be created. The resolution passed by the Illinois State Medical Society reads as follows:

"Resolved, — That a committee be appointed to memorialize the next legislature on the subject of the appointment of a State Board of Health and that with proper modifications, the act by which the Board of Health of Massachusetts was inaugurated be submitted to the same as a basis for the Illinois State Board.

"Resolved, — That as members of the State Medical Society, each one shall consider himself bound to urge the propriety of a State Board of Health upon the representative from his district."

This effort led directly to the enactment in 1877 of not one law but two, the *Medical Practice Act* and the *State Board of Health Act.* The first related only to the education and licensing of physicians; the second to sanitation, the control of epidemic diseases and to the registration of births and deaths. The administration of both laws was reposed in the State Board of Health, which was officially organized on July 12, 1877.

John W. Rauch, M.D., of Chicago, a dynamic and energetic veteran of General Grant's Civil War staff and with boundless enthusiasm for public health service, was elected president of the first State Board of Health and Dr. E. W. Gray of Bloomington was selected as the executive secretary. Other members of the Board included Newton Bateman, LL.D., Anson L. Clark, M.D., William M. Chambers, M.D., J. M. Gregory, LL.D., Reuben Ludlam, M.D., and Horace Wardner, M.D.

The powers conferred on the State Board of Health were general and sweeping in character, doubtless a recognition by the General Assembly that medical and public health work is highly technical and requires specially trained personnel of sound judgment. This first public health law, which still prevails almost without change as to broadness in scope, reads in part as follows:

"The State Board of Health shall have general supervision of the interests of the health and life of citizens of the State. They shall have charge of all matters pertaining to quarantine; and shall have authority to make such rules and regulations, and such sanitary investigations as they from time to time may deem necessary for the preservation or improvement of public health, and it shall be the duty of all police officers, sheriffs, constables, and all other officers and employes of the State, to enforce such rules and regulations, so far as the efficiency and success of the Board may depend upon their official cooperation."

How the Board used its authority, discharged its responsibilities and developed into a strong, effective organization will be discussed in subsequent articles.

SAYS FACILITIES INADEQUATE FOR CARE OF CHRONICALLY ILL

Doctor Points To Need Of Well Planned And Integrated Service To Meet The Problems Of Chronic Illness

"The existing facilities in most communities for the care of the chronically ill are inadequate, and a well planned and integrated service is needed," Herman L. Kretschmer, M.D., Chicago, says in the April 21 issue of *The Journal of the American Medical Association.* Dr. Kretschmer explains that a practical program for meeting the problems of chronic illness must look ahead far into the future.

He points out that from the intensive study which American physicians have given to the problems and diseases of old age, a new department of medicine known as geriatrics has been born. "The constant growing interest and application of the advances of medicine, surgery and allied sciences," Dr. Kretschmer says, "have resulted in an extension of the life span from 42 years in 1900 to 65 years in 1944. The ever increasing number of people in the older age groups have created new problems, of which the medical profession is keenly aware. One is purely medical and has to do with chronic illness. Its prevention and treatment are receiving the serious consideration of the medical profession. The other is a social problem and has to do with employment and security. . . ."

Dr. Kretschmer sets down prevention as the first consideration in treatment. He says that "prevention of chronic illness begins with health education on proper personal hygiene, right living and suitable diet, with particular emphasis placed on the importance of an annual physical examination. This often reveals foci of infection, such as infected tonsils and teeth, which can then be removed long before the arthritis or hypertension begins. . . ."

(*Continued on page 223*)

Medical Economics

The Medical Economics Committee — Chauncey C. Maher, Chmn., 6 North Michigan Avenue, Chicago, Edwin S. Hamilton, V. Thomas Austin, Emmet B. Bay, Jay McDonald Milligan, Jacob M. Mora, George Halperin, Marie Wessels, Thomas C. Browning, Roland R. Cross, Milton E. Bitter, Edwin F. Hirsch, Ford Hick, Lt. Col. MC, William J. Bryan, John R. Vonachen.

THE DINGELL BILL

The Dingell Bill (H. R. 395) was introduced in the House of Representatives of the United States Congress, January 3, 1945 by Rep. Dingell of Michigan. In the 78th Congress, on June 3, 1943, Senator Wagner of New York and Senator Murray of Montana introduced a similar bill in the Senate (S.R. 1161), and Rep. Dingell introduced the same bill in the House (H.R. 2861). These identical proposals are commonly known as the Wagner-Murray-Dingell Bill.

The Dingell Bill (H.R. 395) (and its antecedents) have their origin in the British Report of Sir William Beveridge reviewed in this Journal in February. The similarity of the British Report and the American Bill are unmistakable.

The copy of the bill, referred to the Ways and Means Committee, indicates that it is: "To provide for the general welfare; to alleviate the economic hazards of old age, premature death, disability, sickness, unemployment, and dependency; to amend and extend the provisions of the Social Security Act; to establish a Unified National Social Insurance System; to extend the coverage, and to protect and extend the social-security rights of individuals in the military service; to provide insurance benefits for workers permanently disabled; to establish a Federal system of unemployment compensation, temporary disability, and maternity benefits; to establish a national system of public employment offices; to establish a Federal system of medical and hospitalization benefits; to encourage and aid the advancement of knowledge and skill in the provision of health services and in the prevention of sickness, disability, and premature death; to enable the several States to make more adequate provision for the needy aged, the blind, dependent children, and other needy persons; to enable the States to establish and maintain a comprehensive public assistance program; and to amend the Internal Revenue Code."

The medical and insurance benefits are the most important parts of the bill involving the medical profession. As physicians, however, we are also concerned with the old age retirement, the permanent and temporary disability benefits, and the maternity insurance benefits as these are of a medical nature.

The salient features of the bill include provisions that the "Surgeon General of the Public Health Service is hereby authorized and directed to take all necessary and practical steps to arrange for the availability of the benefits provided . . . to negotiate and periodically to renegotiate agreements or cooperative working arrangements with appropriate agencies of the United States, or of any State or political subdivision thereof — institution — private persons, to utilize their services and facilities, and to pay fair, reasonable, and equitable compensation for such facilities —." The Bill also provides for an "Advisory Medical and Hospital Council — to consist of the Surgeon General and 16 members to be appointed by the Surgeon General. The sixteen members shall be selected from panels of names submitted by the professional and other agencies and organizations concerned with medical services and education —" "The Council is authorized to advise the Surgeon General" on various professional activities.

Under "Guiding Principles and Provisions for Administration" the bill indicates (1) physicians

may qualify for service if they are licensed by a State, (2) the individual entitled to receive benefits shall be permitted to select the physician (except specialists), subject to the consent of the general practitioner, (3) lists of general practitioners shall be published in each area by the Surgeon General. (4) Specialists are to be designated by the Surgeon General — "after consultation with the Council and utilizing standard and certifications developed by competent professional agencies" and (5) "Special Services shall be ordinarily available only on the advice of the general practitioner." (6) "The methods of administration, including the methods of making payments to practitioners, shall ensure the prompt and efficient care of individuals entitled to benefits; promote personal relationships between physician and patient; —" (7) Payments are to be made on a fee schedule approved by the Surgeon General, or a per capita basis, or a salary basis, whole or part time, or a combination of these. The Surgeon General shall publish a list of participating hospitals and provision is made for their selection.

The contributions to underwrite this type of medical and hospital service is specified as 12% of wages, 6% to be paid by the employer and 6% to be paid by the employee. This fund includes retirement, sickness or accident disability, and death benefits.

The Bill also provides a number of other features such as post-graduate education, research grants, dental and nursing services with provisions for administration. The possibilities of abuses are also considered and potential remedies are suggested.

The construction of the Dingell Bill has been criticized by both its opponents and proponents and many who feel that it would not solve the medical problems of the United States. It implies that the remedy lies in passing a law which places the majority of physicians, hospitals, nurses, pharmacists, and other medical personnel under political jurisdiction. That this tremendous political responsibility should be vested in a *single man* (*Surgeon General*) with administrative powers limited only by an *Advisory Council* seems undemocratic. The Dingell Bill represents an extreme viewpoint, copied from our English neighbors, who have under consideration the Beveridge Report, suggesting a lack of original thinking on our part.

The conservative and democratic solution of our medical problem is a continuation of reforms carried on by the medical profession. The physicians themselves, not government legislation, are responsible for the slow but certain evolution of superior medical schools and eradication of the diploma mills. The standardization of hospitals to higher levels of service, the critical selection of medical students with systematic training, and the creation of high standards for qualification as specialists are only a few of their accomplishments. Another milestone is voluntary hospital insurance.

The next step is *voluntary* insurance for other types of medical service with expansion based upon experience, rather than theory and imagination of an unrepresentative minority group of social reformers.

CHRONICALLY ILL (Continued)

The family has an important role in the care of the chronically ill, Dr. Kretschmer says, explaining that the patient's invalidism is too often created or increased as much by the attitude of his family and friends as by the physical condition itself. Industry too plays an important role in this problem. "Careful consideration," he states, "should be given to the aging; and effort must be made to place the older worker in a position commensurate with his capacities so that he may feel that he is taking part in production, thereby retaining his self respect. He should not be shunted off into an inconsequential position when he still is able to perform productive work. . . .

"Whether or not the chronically ill should be hospitalized in institutions dedicated to that purpose or whether they should be housed in wings built as additions to our present hospitals for acute diseases is a subject still under debate. Some believe that they should be cared for in the separate wings of the so-called acute hospitals and others believe that special hospitals should be built for that particular purpose. . . .

"Certainly for those patients for whom any significant degree of rehabilitation can be anticipated, active steps must be taken to restore independence and self reliance as fully and as rapidly as possible. . . ."

Tuberculosis can destroy the finest human material in every nation. Yet all modern knowledge shows that this disease, if fought with medical and social weapons known to us now, can be cured and largely prevented. Harley Williams, M.D., Amer. Rev. Tbc., Jan. 1945.

Medicine's Role in the War Effort

A. A. F. CLINICAL REFRESHER TRAINING

The establishment of clinical refresher training for A. A. F. Medical officers returning from overseas and for others whose assignments have provided them a minimum of clinical experience has been announced by Major General David N. W. Grant, the Air Surgeon of the Army Air Forces.

The training covers a twelve week period and consists of a two week didactic course at the A. A. F. School of Aviation Medicine, Randolph Field, Texas, and a ten week clinical course in one of the larger A. A. F. regional hospitals.

The purpose of the training, said General Grant, is to give medical officers who for a period of twelve months or more have had a minimum of active clinical work as the result of assignment to administrative, dispensary or tactical positions an opportunity (1) to study the newer methods of medical and surgical treatment and (2) to qualify for clinical positions in A. A. F. hospitals.

"It is the nature of war to prevent a great many of us from doing what we want to do," said General Grant. "Much of the flight surgeon's work is not medicine per se, yet the practice of aviation medicine is a vitally important mission requiring the scientific training and humanitarian interest of the medical officer and, with competent performance, constitutes preventive medicine of the highest order.

"The flight surgeon's success in the aero medical extension of the airman's sphere of action should be ample reward for any sacrifice of clinical interest. There have been complaints, however, that the flight surgeon does not find sufficient opportunity for enhancing his professional competence in clinical medicine and surgery. This is true. The wing, group or squadron surgeon who has been overseas for one, two or three years has had little or no opportunity for experience as a practitioner.

"A few tactical air forces which have hospital facilities as a part of their organization have been able to remedy this situation to a certain extent by rotating medical officers between field and hospital service."

For medical officers returning home, he said, clinical refresher training has been introduced in line with his long-held intent to do everything within his power to secure the futures of the men to whom he is personally as well as officially obligated for the outstanding success of the A. A. F. Medical Service.

The new postgraduate training in the A. A. F. is described as a logical sequence to the resident training provided for more than 600 young medical officers in A. A. F. hospitals accredited for this purpose by the Council on Medical Education and Hospitals of the American Medical Association.

The refresher training is given on a voluntary basis to officers for whom a hospital assignment is contemplated, preference being given to those with the longest terms of overseas service, regardless of rank.

If vacancies are not filled by returnees, medical officers assigned to administrative, dispensary or tactical positions in the zone of interior will be considered for this training.

The plan of training, as described in A. A. F. letter 50-97, dated Feb. 20, 1945, provides in the didactic phase for clinical conferences and lectures in medicine, surgery and the subspecialties, with parallel reading in textbooks and periodicals prescribed. In the second, or hospital, phase the student medical officers will perform the duties of ward officers, receive special instruction in x-ray interpretation and laboratory diagnosis and have opportunity to work in the operating room in such capacity as may be determined by the chief of surgery. All hospital training will be of an on the job character in which fullest utilization will be made of the officers' services for essential medical duties.

Facilities for training in the following specialties are available in A. A. F. hospitals: general medcine, cardiology, gastroenterology, dermatology, bacteriology, general surgery, anesthesiology, orthopedic surgery, otolaryngology, urology, ophthalmology, roentgenology and psychiatry.

"While the primary purpose of clinical refresher training is to prepare the medical officer for an A. A. F. hospital assignment, it is obvious that the offered course will be of postwar value to the individual," said General Grant.

ARMY INCREASES CALORIES FOR OVERSEAS COMBAT RATIONS

The War Department recently announced that more nutritive elements are being included in the C and 10 in 1 combat rations for our troops overseas. The standard ration for overseas troops, wherever they have regular access to the army kitchens, is the B ration. This ration, which already provides approximately 3,900 calories per man daily, has been found to be ample for the average soldier and remains unchanged. When troops go into combat, however, they are cut off from their mess facilities and for this reason must depend on packaged rations. The 10 in 1 ration, a packaged ration that is the next thing to the food provided by the soldier's regular mess, now provides 4,150 calories per man daily, as compared to a former caloric content of 3,927. The C ration now provides 3,700 calories, compared to the 2,775 calories. The pocket or K ration, issued for emergency use by troops, is rated at 2,860 calories and remains unchanged.

★ ★

365,437 PRISONERS OF WAR IN THE UNITED STATES

The War Department recently announced that there were 365,437 prisoners of war held within the continental limits of the United States as of April 1: 311,630 German, 50,549 Italian and 3,258 Japanese. The prisoners are being held at 141 base camps and approximately 319 branch camps located in all sections of the United States. The branch camps are designed to place prisoners near current work projects. About 35,000 of the Italian prisoners of war were members of Italian service units directly engaged in war work. They contributed almost a million man days of work to the war effort during the month of March. Of the remaining war prisoners, an average of more than 43,000 were working on contract labor and more than 150,000 were working at Army, Navy and Air Corps posts, camps and stations. Additional prisoners were assigned to "housekeeping" duties within their own prisoner of war compounds, and the remainder of those not working were either hospitalized or officers of nonworking noncommissioned officers who cannot be forced to work under terms of the Geneva Convention.

Prisoners working on posts, camps and stations during March were employed principally in the laundries, in clothing and equipment, in warehouses, in quartermaster shops, in the maintenance of buildings, utilities, grounds and roads, in motor maintenance and repair and in bakeries and messes of American officers and enlisted men.

★ ★

LET'S WALK

Under the title "Let's Walk," the Convalescent Training Division of the Office of the Air Surgeon has issued a manual (Air Forces Manual No. 49) which is designed to teach the man who has had a leg amputation to walk again. It is a well illustrated, carefully prepared handbook, telling the man how to exercise in order to prepare his muscles for the job. There follows a history of crutches, with a description of the various types available and full information leading up to the ultimate use of an artificial limb. The book is based on a large experience and should be most helpful in achieving its purpose.

★ ★

EDUCATIONAL OPPORTUNITIES FOR ARMY DOCTORS

Since the start of World War II, over 6,000 selected medical officers have been graduated from short but intensive courses given by the Medical Department in some thirty critical medical and surgical specialties, according to Major General George F. Lull, Deputy Surgeon General. In addition, refresher courses in general medicine and surgery provide medical officers with a chance to "brush up" before returning to professional assignments after other duty.

Many doctors also benefit while in service from working under key professional personnel in military hospitals. Other medical officers who have been on duty with combat troops in the field are given an opportunity to brush up on their specialty through the rotation policy.

General Lull reported that 350 doctors have been reassigned from field to hospital duty during the past year in the Mediterranean Theater and "the merit of intra-theater rotational plans has been pointed out to other theaters, and is being encouraged in order that the maximum number of doctors might receive refresher training while they are still in military service."

Naturally, professional training of medical corps officers during military service must be restricted to meet military rather than civilian requirements. However, General Lull said, The Surgeon General is keenly interested in the welfare of these doctors and will provide "insofar as is possible" opportunities for professional training.

In the post war period, he added, all doctors will be entitled to professional training, after their release from service, under the G. I. Bill of Rights, and those who remain in the Army will have the opportunity for refresher training at selected military hospitals and civilian schools.

★ ★

EXPENDABLE REFRIGERATORS PROLONG LIFE OF WHOLE BLOOD

Whole blood, flown from this country to the European Theater of Operations, keeps in condition for transfusions 5 days longer than formerly, or as long as 21 days, because of a new system of refrigeration inaugurated this month, according to the Office of The Surgeon General.

The bottled blood is now being flown overseas daily in compact, expendable ice-boxes made of metal foil on cotton insulating board which keep the blood within safe temperatures: between 39 and 50 degrees fahrenheit. The containers, measuring 21 x 21 x 25 inches, weigh only 105 pounds when carrying their full capacity of 24 bottles. Each bottle contains about a pint and a half of whole "O"-type blood.

An elaborate system has been set up overseas to complete delivery. The blood is flown to focal points in

all forward areas. Blood bank detachments at those points service all Communications Zone medical installations in the area and truck the blood farther forward to advance detachments which deliver it to the operating surgeons.

Brigadier General Fred W. Rankin, USA, Director of the Surgical Consultants Division, Office of The Surgeon General, stated that whole blood plays such a vital role in the saving of lives that anything extending its use is of prime importance.

★ ★

MAJ. H. A. LOWY SERVES IN CHINESE THEATRE OF WAR

Promotion of Howard A. Lowy, 31, son of Mr. and Mrs. George J. Coffey of 5232 W. 23rd St., Cicero, Ill., from captain to major, has been announced by Major General R. B. McClure, commanding general of the Chinese Combat Command.

Lowy, who is serving as assistant to the surgeon at a headquarters of the Chinese Combat Command near Kunming, was graduated from St. Ignatius High School, Chicago, in 1931, and received his Ph.C. degree from the University of Illinois College of Pharmacy in 1934 and his B.S. and M.D. degrees from the University of Illinois College of Medicine in 1939.

He was engaged in the private practice of medicine at Creve Coeur, Illinois, prior to his entry into the Army in October, 1942.

He arrived in India in September, 1943, where he served as medical officer of the India-China Wing of the Army Transport Corps. In June, 1944, he was flown across the Himalayan "Hump" to join the American military mission, which trained, supplied and equipped the Chinese Expeditionary Force in its successful Salween compaign, the offensive which drove the Japs from southwestern Yunnan Province, thereby making possible opening of the new Stilwell Road.

The major is holder of the Presidential Unit Citation awarded for his service with the India-China Wing of the Army Transport Corps, and is also entitled to wear two bronze stars on his Asiatic Pacific Campaign ribbon — one for service in India and the other for service in China.

★ ★

FAVORABLE REPORTS ON TRENCH FOOT

Reports from the Army general hospitals at Camp Butner, N. C., and Camp Carson, Colo., which are trench foot treatment centers, indicate that the cases now under treatment are for the most part mild. Lieutenant Colonel Roy H. Turner, MC, Acting Director, Medical Consultants Division, Office of The Surgeon General, who recently returned from an inspection trip, stated that, with the exception of a very small percentage of cases, evidence of injury to the feet is slight and recovery is both rapid and exceedingly satisfactory.

The mildness of trench foot cases now being hospitalized is largely due in the opinion of Colonel Turner, to the Army's intensified education of troops concerning trench foot which has resulted in the prompt reporting of cases, early diagnosis, and immediate treatment.

LST HOSPITAL SHIPS SAVED LIVES AT IWO JIMA

Four of the big LSTs at the invasion of Iwo Jima were transformed into floating medical evacuation stations within a few minutes after their amphibious tanks were launched. Remaining close inshore throughout the operation, wounded men were on their operating tables in some instances within twenty minutes after they had been hit. The four ships had been so loaded that all of their tanks would hit the water within seconds after their arrival on the line of departure. These tanks were for the first wave. Navy Medical Corps personnel rode to the operation aboard the "hospital LSTs." Operating tables set up in the troop quarters long before the island was sighted were soon ready. As the last "water buffalo" rolled down the ramp, cleaning crews went to work and before the first wave had reached shore the huge tank decks had been transformed into 150 bed hospital wards. The work of the doctors on the four ships was under the direction of Capt. Robert M. Gillette, formerly of Altadena, Calif.

★ ★

MEDICAL-SURGICAL CONFERENCE AT 300TH GENERAL HOSPITAL

Probably the largest military medical meeting ever held over-seas was sponsored by the 300th General Hospital January 26-27 at the hospital in Italy. More than 600 officers attended, drawn from all over the Mediterranean Theater of Operations. The General Sessions, which were presided over by Col. George W. Reyer, commanding officer of the 300th General Hospital, were featured by addresses by Major Gen. Morrison C. Stayer, surgeon Mediterranean Theater of Operations; Brig. Gen. Joseph I. Martin, surgeon Fifth Army; Col. Frank Berry, surgical consultant Seventh Army; Col. Perrin Long, medical consultant Mediterranean Theater of Operations, and Lieut. Col. Tracy B. Mallory of the 15th Medical General Laboratory. The scientific sessions were divided into a medical and a surgical section, and each of these had programs running simultaneously composed of papers, lantern slide lectures, clinical demonstrations, ward rounds and reports of cases.

The private physician determines the presence or absence of tuberculosis. He has the responsibility, not only of making a diagnosis and advising treatment when indicated, but also of convincing the patient to accept his advice. The physician should be meticulously careful that in an effort to spare the feelings of the patient he does not minimize the importance of the disease, both to the individual and to his family and other associates. The patient should realize that he has tuberculosis and not a "shadow" or "spot" on his X-ray film, that continued observation is absolutely essential, and that if treatment is indicated it is imperative that he accept it. Roberts Davies, M.D., Nopeming San., Nopeming, Minn.

Original Articles

OCCUPATIONAL DERMATOSES (DIAGNOSIS — MANAGEMENT — PREVENTION)

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The occurrence of dermatoses in industry has been of decided importance for years because of their many resulting disabling factors and consequent loss of man power. In times like this, when loss means a distinct slow-up, our attention is more than ever attracted to their importance, especially those in the war industries. The rapid expansion of our industrial program which involved the conversion of peace-time factories into ordnance and munition plants and the employment of large numbers of people in hazardous occupations before modern safety appliances can be installed and before new workers can be educated as to the health hazards of their new jobs, necessarily results in an increase of occupational diseases.

The skin, being the portion of the body which comes in contact with external irritants, is the first to be affected by many of these industrial poisons. In fact, Dr. Louis Schwartz, medical director of the Dermatoses Investigation Section of the U. S. P. H. S., states that most of the occupational diseases encountered in these new war industries are dermatoses.

As to terminology, many have been used. Dr. C. Guy Lane feels the term "dermatosis industrialis" should include all the eruptions having occupational origin. This term he would qualify by the type of skin lesion produced and the name of the causative agent; if this last is unknown, he would substitute the occupation. We ordinarily think of dermatitis venenata being an eruption of severe manifestations as edema and large bullae, while an occupational dermatosis is usually a localized dermatitis venenata and we think of more of an eczematoid eruption and having chronic rather than acute characteristics. Again, in occupational dermatoses we have the inhalant factor, in which the eruption appears as an internal absorption. The term industrial dermatitis is probably as correct and as comprehensive as any other designation. If produced entirely by contact, one might say a contact dermatitis.

It is necessary not only to detect that a dermatitis is actually of occupational origin but it is essential to render the appropriate treatment to cure the patient as fast as possible. To accurately as possible detect the etiologic agent will prevent a recurrent in that patient, and, in general, institute preventive measures to prevent occurence in others. In order to investigate intelligently the cause of industrial dermatoses, Schwartz points out that one must have at least a sufficient knowledge of dermatology to distinguish a contact or occupational dermatitis from such ordinary skin diseases as psoriasis, impetigo contagiosa, urticaria, pityriasis rosea, lichen planus, acne vulgaris, and superficial fungus infections, as ringworm.

While most irritants in industry produce an eczematoid reaction suggestive of a dermatitis venenata, there are other skin manifestations which are not expressed in this way. It must be recalled that there is loss of pigment of the skin

From the Department of Dermatology, Loyola University School of Medicine.

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such as occupational vitiligo, as shown originally by E. A. Oliver. Then there are the hyperpigmentations, as the melanoses, as described in detail by Harry Foerster. There are also the follicular reactions due to the oils. Another follicular expression is that of so-called chloracne occurring in people who are in contact with the chlorinated hydrocarbons. Among infections of occupational origin are the erysipeloid of Rosenbach which has been forcibly brought to our attention by Klauder; furunculosis or boils occurring in epidemics, fungus infections of the animal type occurring in workers in hides, and deep fungus infections in nursery employees, as sporotrichosis.

Other Special Diagnostic Findings. — A discoloration of the skin occurs in workers in lacquer, painters and dyers, workers in saltpeter, and in sulphuric acid. Skin deposits are associated with industries like handling wool, flour, cement and lime. Fissures of the fingers and fingertips are seen in dressmakers and basket makers. People working in the presence of disseminating heat develop a pigmentation of a retiform distribution, so-called livedo calorica. The development of argyria in workers who apply silver coatings to glass beads, etc., is well known, the silver entering the epidermis and reaching the cutis through the blood stream. Calluses and cornified areas form for protection against various sorts of local irritations. Tattooing occurs in workers in stone, gun powder, iron and steel. Tissue burns of varying degrees occur as industrial injuries in metal workers and these are well known and handled best by the industrial surgeon rather than the dermatologist. Acid and alkali burnings play a large role in industrial injuries. The halogen salts, especially iodine and bromides, produce an acneform eruption, particularly in the areas of ordinary acne. Follicular papules, resembling acne, are well known in workers of oil and tar. Consequently, people who handle petroleum and its derivatives are especially liable to present acne-like diseases, as before mentioned.

Inorganic Agents. — Many inorganic substances will cause injury to the skin. Workers in wallpaper and enamel may have a scarlatiniform eruption and even vesicular oozing dermatoses from absorption of arsenic. After prolonged contact, the well known warty arsenical keratoses may develop on the palms. These can develop into squamous cell carcinoma. Oftentimes similar eruptions are caused by antimony and its derivatives in workers in rubber and artificial silk. Sensitivity to nickel, as in nickel sulphate, and chromium compounds as used in the graphic industries, may cause sensitization dermatoses. These may also cause localized tissue destruction, the chrome ulcers being a noted example. In hypersensitive patients cobalt may cause edema of the hands with the formation of vesicles. Petroleum, tar, benzene, formaldehyde, produce both allergic and toxic eruptions. Anilin, used by painters, dyers, etc., is apt to cause edematous and oozing eruptions. Turpentine may give rise to weeping and oozing dermatoses of allergic character. In bakers and millers potassium and ammonium persulphate produce a sensitization dermatosis. Hypersensitivity to various woods and bark and various trees produces another class of occupation or trade dermatoses. Several cases have been seen due to contact with fruits and vegetables, e.g., asparagus, carrots, tomatoes and oranges.

Diagnostic Criteria. — There are a number of criteria that make for accurate diagnosis, because many times it is thought by patients that any eruption which appears while a person is working is of occupational nature. The history of events is very important. This should bring out the fact that the dermatitis was not present before the patient entered on his present occupation, that it developed during a period of industrial exposure or after a lapse of a reasonable period after the stoppage of the exposure. The site of eruption is important. The eruption must have begun first on the exposed parts, i.e., on the hands, fingers or forearms if the offending material is a solid or liquid. If the offending material is a vapor, it is more apt to be on the face and neck. In cases of irritant dust which may pentrate the clothing, the covered parts of the body may be affected first, especially if the clothing is not changed frequently. In some cases, the points of friction, such as the wrist where the gloves and sleeves rub or the belt line where the belt or trousers cause friction, may be the first affected.

The appearance of the lesions is usually quite characteristic. An acute industrial dermatitis begins as an erythema followed by papules, vesicles, oozing and crusts, no matter what the irri-

tant may be. There are a few classes of industrial irritants which present more or less characteristic lesions on various parts of the body, such as a paronychia common to fruit and vegetable handlers. Acneform lesions caused by the chlorinated waxes, coal tar and petroleum oils. Folliculitis is very often caused by oil and boils by oil and soiled clothes. Keratotic and malignant growths are caused by coal tar and certain petroleums and arsenic, as before mentioned.

As a confirmatory measure to detect certain irritants, patch tests are performed. A patch test consists of applying a small amount of the suspected irritant in the strength in which the patient encountered it in his work. Obviously, one cannot use a primary irritant in that it would not only lead to a wrong conclusion but if material is used in full strength, it could cause a serious necrosis with its medicolegal sequelae.

The actual differential diagnosis is, at times, somewhat difficult, but a rule that applies in many instances is that a dermatitis due to occupation tends to get well when the patient is removed from the work and recurs after he goes back to his same job.

Oil Dermatoses. — In taking up some of the actual dermatoses, those of the war industries will be first briefly described. The teachings and findings of Dr. Louis Schwartz will be very freely quoted. One of the very frequent causes of dermatitis in the factories engaged in the production of war material is the cutting oils. As these oils are used in the making and machining of metal parts, they are used a great deal in the manufacture of almost everything connected with the war, especially tanks, guns, small arms, projectors, trucks and airplanes, etc. The cutting oils are divided into two large groups, the soluble and insoluble. The soluble oils in general consist of sulfonated mineral oils, soap, resins and sulfonic acids. Some preservatives are added, for instance, phenol. The soluble oils are usually mixed with water in various proportions and flow continuously over the cutting operations, thus cooling the cutting tools as well as furnishing some lubrication. The insoluble oils consist chiefly of mineral oil, some fatty oil, a small per cent of sulfur and chlorine. All petrolatum oils de-fat the skin. Then, of course, the type of skin has a marked effect on this sensitivity, a dry skin being especially susceptible. Cutting oils after being used contain many steel slivers which may wound the skin of the workers, especially if old dirty towels or old waste material full of slivers are used to cleanse the hands.

Cutting oils produce many kinds of dermatitis but usually folliculitis. This folliculitis is definitely due to the oil irritating the follicles and the U.S.P.H.S. has found that the staphylococci and streptococci are usually of very little influence. Allergic dermatitis is the least frequent type caused by cutting oil. Occasionally there is a hypersensitivity to the oils, the inhibitor or the disinfectant in the oil. In such cases, there will be a positive reaction to the patch test with the cutting oil used.

Explosives. — So far as experience among explosives is concerned, tetryl is the chief cause of dermatitis. It affects new workers from one to two weeks after they begin handling it. Ten to fifteen per cent of all new workers are affected. The dry powdered tetryl causes a larger percentage of dermatitis than do the pellets or the wet tetryl. Tetryl dermatitis usually begins on the face because the tetryl-soiled fingers are unconsciously applied to it. Points of friction, such as the collar line and the wrists, are favorite sites for dermatitis. The face often becomes so severely affected that the eyelids are closed and the lips are swollen. The hands and faces of workers coming in contact with tetryl are often discolored to a yellowish-brown color, similar to that imparted by picric acid. The hair of many of the workers is dyed a reddish-yellow color.

In taking up the eczematoid lesions, three important factors present themselves at once. First, is it dermatitis venenata due to articles handled in the patient's work or at home? Second, is it an infectious dermatosis, especially of the ringworm group? Third, is it an eruption due to sensitization due to ingestant, especially of food? These three main headings constitute the three cardinal things to consider.

Skin hazards present in certain American industries have been studied in detail by the U.S. P.H.S., e.g. oil refining, rubber industry, candy making, leather manufacturing, fur industry, artificial silk, citrous fruit, paints and varnishes, pulp and paper, explosives, etc. Naturally, there are numerous features peculiar to the various industries.

There has not been as much attention paid to the prevention of occupational dermatitis as to the prevention of occupational poisonings, de-

spite the fact that there is more time lost from work on account of occupational dermatitis than from any other occupational disease. Unlike the protective measures against systemic occupational diseases which are practically the same for nearly all, namely, reduction of the concentration of the poison in the air by enclosed processes and exhaust systems, the same method of prevention will not suffice against the various skin irritants encountered in our industries. There are many protective measures against the different sources of industrial skin irritants.

The protective measures should begin in the preemployment examination where the skin of the applicant should be carefully examined and any pathologic conditions noted. Applicants with skin eruptions should not be employed in occupations where there is a marked skin hazard; for instance, those applicants having allergic eczemas should not be employed where there is a marked skin hazard from such well-known sensitizing chemicals as tetryl, fulminate of mercury, the picrates, TNT, formaldehyde and its compounds, synthetic dye manufacture, and others.

Preemployment patch testing for the purpose of discovering those workers who are allergic is not advisable because workers are usually not allergic to chemicals with which they have had no previous contact. Therefore, very few, if any, would be discovered by this method. Patch testing workers with sensitizing materials may be the means of sensitizing them. Careful note should be made of the sites of acneform lesions on applicants for work in occupations where they are to be exposed to such occupational acne producers as the solid chloro-hydrocarbons, cutting oils, heavy coal tar distillates, crude petroleum and lubricants derived from it.

The presence of active ringworm infections on the feet and other parts of the body should be noted. If the applicants are otherwise employable, the fungus infections should be treated while they are working, and the parts affected should be properly protected from the action of occupational irritants. If there are common shower-baths in the factory, care should be taken to prevent the spread of fungus infections of the feet. The workers should also be instructed that they should thoroughly dry and spread powder between the toes before putting on their stockings. The fungi do not grow in dry media. There are many powders on the market for this purpose, and most of them contain some antiseptic, such as oxygen in the form of perborates and peroxides, and other fungicidal chemicals.

Applicants who have dry skins should not be placed at any position where they must immerse their hands in fluids which defat the skin such as strong soaps, alkaline solutions or the volatile solvents.

Properly designed protective clothing is of great value in the prevention of occupational dermatitis. Closely woven cotton fabrics that are more or less impervious to dust are frequently used to protect workers from such irritant dusts as sodium carbonate, calcium cyanamide, etc. For such fabrics to give efficient protection, they must be frequently cleaned.

Impervious materials, such as rubber, offer better protection against dusts than do fabrics, and they also give protection against irritant liquids. Rubber gloves, aprons, boots, and sleeves are impervious to water-soluble irritants. Rubber, however, soon deteriorates when exposed to alkalis, petroleum distillates or the chlorohydrocarbon solvents.

Leather gloves offer good protection against trauma and irritant or sensitizing solids and dusts. Leather gloves should be made of soft, pliable, washable leather, such as chamois. The seams should be finished and smooth. Coarse seams rub and irritate the skin, causing dermatitis by mechanical friction. Gloves for the protection of the hands from irritant chemicals should reach well up the forearms and should be worn under impervious sleeves, fastening at the wrists so as to prevent the entrance of irritant chemicals into the gloves. Aprons should reach well up to the neck and below the knees. Aprons are of a special value in protecting the body from cutting oils. One must again emphasize the fact that, in order for protective clothing to be really protective, it must be kept clean.

Cleanliness. — Cleanliness is by far the most important single measure for the prevention of industrial dermatoses. By cleanliness, we mean not only cleanliness of a person, but cleanliness of the room, the machines and the clothes. Floors, walls and ceilings of rooms in which there are industrial irritants should be wet-cleaned daily. Machines and tools on which industrial irritants deposit should also be cleaned daily. Adequate washing facilities should be

provided for workers handling industrial skin irritants. Workers whose clothes become soiled with industrial skin irritants should be compelled to take supervised shower baths after work, before leaving the factory. It may be necessary to have a double set of locker rooms to be sure that the workers do not put on dirty clothes before going home. Care must be exercised so that the soaps and other cleansers used by workers to remove dirt, dyes, oils, etc., will not themselves cause dermatitis. Workers who become soiled with oils, greases and dyes are likely, if left to themselves, to use the most available and most rapid acting solvent to clean the skin. They do not stop to consider the irritant action of the cleanser. Many cases of dermatitis among workers have been caused by the cleansers used before going home. Then it should be seen that the workers use only such cleansers as will not act as skin irritants.

The cleanliness factor, as for as personal hygiene is concerned, has been greatly exaggerated in the causation of industrial dermatoses especially oil folliculitis. Recent research work has shown that people who are considered clean (in fact, professional people) and who had never worked in oil, developed an oil folliculitis when oil was placed for 24 hours on the wrist, beginning six to eight days' time and persisting for ten days to two weeks with only one application. Cleanliness in avoiding oil is desirable of course, but who can avoid oil when he needs to work in it?

An industrial cleanser, according to Dr. Schwartz, for the normal skin should theoretically have the following qualities:

1. It should be freely soluble in hard, soft, cold, or hot water;
2. It should remove foreign soil, fats and oils without harming the skin.
3. It should not contain harsh abrasives or irritant scrubbers.
4. It should be handy to use in cake form, or should flow easily through soap dispensers if in granulated powder or liquid form.
5. It should not deteriorate or become insect infested.

For those occupations in which excessive scrubbing with such soap is necessary in order to remove dyes or tenacious oil, it may be better to add to such a cleanser a small amount of alkali, such as trisodium phosphate, or an organic solvent, such as naphtha. Whenever such alkali reinforced cleansers are used, it is best to supply the worker with an emollient cream to be rubbed into the skin after washing so as to replace the fat removed by the strong cleanser.

Those workers who have dermatitis, sensitive or dry defatted skins, should not use the ordinary industrial cleanser previously described. It is better for them to use one of the soapless cleansers, the pH of which is 7 or less. Such a cleanser may consist of a neutral sulfonated caster oil containing from 1 to 2 per cent of the synthetic agents.

Protective Ointments. — While protective ointments are low on the list of preventive measures, they are often the only available means of protection. In most occupations, the face cannot be covered by protective clothing. The work must often be performed with bare hands, the gloves being unsuited for the operation. Workers, as a rule dislike to wear protective ointments. When a protective ointment is used, the worker invariably washes it off with soap and water immediately after work and so removes not only the ointment but whatever irritants there are on the skin. This *washing after work* adds considerably to the value of the protection *supposedly* given by the ointment. There is no one formula for a protective ointment which will give sufficient protection against all skin irritants.

SUMMARY

Clinical features of various common types of occupational dermatoses and cutaneous syndromes are described.

The various etiological agents are enumerated.

Protective measures are briefly discussed.

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Poverty or the fear of poverty, more than any single factor, changes the tides of battle in favor of the tubercle bacillus in the individual or in the family. Poverty engenders crowding, ignorance, nutritional deficiencies, and medical neglect; all of which create a favorable soil for the tubercle bacillus. The result is that benign infections become malignant, closed or sputum negative cases become open or sputum positive cases, the spread of germs becomes constant and massive, and cases multiply. Robert E. Plunkett, M.D., Conn. State Med. Jour., Jan. 1944.

RECENT TRENDS IN RADIATION THERAPY OF CANCER

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When x-rays were first discovered by Conrad Roentgen fifty years ago they were called x-rays, the x indicating the mathematical symbol for the unknown. To-day, even though the name x-rays still persist very much is known about them both as to their physical qualities and biological effects on normal and pathological tissue and are now more properly named after their discoverer and called Roentgen rays. The mysticism and mysteriousness concerning them is disappearing with ever increasing knowledge and in the use of radiation — radium and x-rays, certain trends have been developed. These trends represent certain lines of thought and many points of view. Many ideas and convictions concerning their proper use for the different types and kinds of cancer may differ widely and there may be and are many hot arguments regarding the best procedure in any given condition. While there are many honest differences of opinion, in looking back over twenty-five years in this field and looking forward to the future, these trends are quite clearly defined. This paper is in the nature of a resume and preview.

Time Factor. — Up until about the year 1920 practically all radiation therapy was given at the voltage ordinarily used for radiography, i.e. fifty to one hundred thousand volts. With the introduction of larger transformers and better tubes, the so-called "deep therapy" was introduced.

The largest impetus to x-ray therapy at these higher voltages (in this field now classified as "deep-x-ray") was made by the Germans during and shortly after the first World War. They introduced the "massive dose" technic. By this plan a patient with a deep-seated carcinoma received his full quota of treatment all at once. The period of administration frequently lasted as long as eight to ten hours. The results in some instances were startling but in many other instances disastrous. Because of the many radiation accidents following this plan, fractionation of the dosage was resorted to. Instead of giving the whole treatment in one massive dose in one day, numerous smaller amounts were given over a prolonged period of time. This was done very largely to avoid the serious roentgen sickness but the idea of fractionation had been stimulated greatly by Regaud who found that by breaking up the dose over a number of days he could produce effects upon the germinal cells of testes of the rabbit that were lethal in character without serious damage to the overlying skin, while if this amount of radiation had been administered all at once serious skin necrosis would have resulted. This led to the discovery of the fact that cells, both normal and pathological, are much more susceptible to radiation effects during the period of mitosis than in their resting stage and that by fractionating and prolonging the period of time of administration of the radiation over a number of days many more cells could be caught during their period of mitosis. This was indeed a most important and basic discovery.

In spite of the fact that most cases of carcinoma to-day are treated by the fractionated method the massive dose technic is still followed at least in part in many hospitals and clinics particularly in the treatment of carcinoma of the lip. Why carcinoma of the lip should be an exception I cannot understand unless it be because it is superficial. Carcinoma of the lip, one of the most curable lesions by radiation, is deserving of as much consideration and care as any of the deep-seated lesions. While the massive dose applied all at once cures many, there are, I am convinced more recurrences than following treatment by the fractionated method, particularly with filtered radiation as contrasted to unfiltered and especially when a large field is used rather than a small one. Many dermatologists treat a small field over the local lesion alone with a massive dose of unfiltered radiation that does not reach the depth of the lesion and there are many recurrences after treatment by this method; with a large field taking in the whole of the lower lip with filtered radiation and fractionated dosage there should be practically no recurrences, that is if the lesion is localized and confined to the lip.

Filtration. — Another important factor in

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radiation therapy in which there has been a definite trend is from little or no filtration to an ever increasing amount of filtration. It has long been known that with higher voltage, greater filtration, and greater distance, better depth doses are obtained together with a more homogeneous distribution of the rays. From a strictly physical and economical standpoint with the so-called "high voltage" or deep therapy technic at 200 KVP. a filter greater than 0.5 m.m. cu. may not be needed but during the past five to ten years many of the radiological institutes and radiologists in this country have found that they could get better results with a filter equivalent of 2 m.m. cu. Skin changes were also markedly reduced. Considerable earlier investigation has failed to demonstrate that the shorter wave length of even the gamma rays of radium (equivalent to one million volts or more, as compared with the roentgen rays used in clinical practice 100,000 to 200,000 volts) produced any differences in biological effect on living cells. It is believed that equal quantities of radiation energy whether of gamma rays or roentgen ray sources produces quantitatively equal and qualitatively equal biological effects. However, to effect a cell, radiation must reach the cell; the action of radiation is direct and local in scope. While this above statement has been the generally accepted point of view, since the introduction of the so-called super voltage, x-rays, that is x-rays generated from 300,000 to a million volts, there is a trend away from this concept and a number of authorities such as Failla, Woods, and others have come to believe that there is after all a specific wave length effect. Whether or not this is true, in order to achieve a cure, every single cancer cell must be destroyed and if there is even no greater effect on cancer cells by the shorter wave lengths, it is clearly demonstrable that there is less effect upon the normal tissues and overlying structures are spared. Therefore, the differential between normal and cancer tissues is increased and it is possible to give larger doses to the cancer without irreparable damage to the surrounding normal tissues and organs especially the skin. This can be clearly demonstrated clinically even though it may not as yet be capable of experimental proof. Herein, lies the matter of successful treatment—the proper selection of wave length (or in other words voltage and filter) and the proper time factor.

Large Fields Vs. Small Fields. — Which should be used, a large field in order to include all of the tumor and its ramifications or a small field to spare as much of the surrounding normal tissues as possible? In the use of the small field, particularly if the tumor is deep-seated, the beam of x-rays can miss the tumor if even only slightly misdirected. This was clearly demonstrated by Lauritzen at the California Institute of Technology with his double chamber iometer, one chamber on the skin and the other chamber in the vagina. With a slight movement on the part of the patient the tumor may get partially or entirely out of the field. The amount of backscatter of rays produced with the smaller field in contrast to the larger field, is markedly reduced. These are the arguments against the use of the smaller field.

There are, of course, many advantages in the use of the small fields. With the small fields the amount of effect on normal tissues is markedly reduced; the lesion itself is treated without taking in any additional territory. In cavities such as the mouth or vagina the small cone has been a great advantage.

In my hands, at least, the objections to the small field, outweigh its advantages. With a larger field the tendency for the tumor to get out of the treated area is reduced to a minimum. Movements of the patient are not so serious and the increased backscatter effect in the tissues is a decided advantage. In the use of the smaller field particularly with the Odman cone with a field diameter of less than 5 cm. it is almost impossible to keep the patient quiet and keep the lesion in the treatment field, especially old people and children.

While there is a trend more recently toward multiple small fields it has not been my policy to follow this trend. I do not trust small fields.

Radiation Sensitivity and Radiation Curability. — Radiation sensitivity as contrasted to radiation resistance was one of the earliest biological phenomena to be noted when radiation therapy was introduced early in this century. The law of Bergonie and Tribondau, that is, "the less differentiated the cell, the greater its sensitivity" may have been elaborated upon and extended but this basic concept has never been

changed or improved upon. However, with the advancement of our knowledge of radiation effects, with the improvements made in x-ray apparatus, particularly the production of larger quantities of short wave-length x-rays (again greater filtration and higher voltage) many tumors formerly considered as radiation resistant are now considered as curable. In my experience, such tumors as adeno-carcinoma and osteogenic sarcoma which were formerly considered incurable have in many instances responded favorably to such radiation therapy. It still remains true that radiation sensitivity does not by any means mean curability because it is notoriously true that the more rapidly growing undifferentiated cells are much more rapid in their extension either by lymph channels or blood stream and while the local lesion may respond remarkably to a comparatively small dosage, due to the rapid spread of the disease, the results of treatment are only temporary. From the standpoint of the patient, a schirrus type of carcinoma of the breast may offer a better outlook than the meduallary type. Take, for example, lymphsarcoma. The reason for its radiation sensitivity is undoubtedly the rapid cell growth; this is also the basis of the more rapid extension and metastases and even though more cells are caught in their dividing and susceptible stage than in the resting stage, still the condition may and usually does prove fatal. Radiation sensitivity and curability are by no means synonymous.

Palliation. — There is no question but that many apparently hopeless cancers can be cured but it also remains true that the more advanced a carcinoma is the less chance there is for a cure. In the apparently hopeless case of carcinoma the radiologist should not be overambitious and subject the patient to the distress, discomfort and frequently the pain caused by severe radiation reactions when all that he can reasonably expect to accomplish is relief of symptoms. On the other hand, the radiologist should not be satisfied with simple palliation because he thinks the case is an advanced one and there is no chance for cure. This is a matter for careful judgment and fine discrimination. More patients are harmed by undertreatment than by overtreatment and the radiologist can very frequently salve his conscience by saying to himself "Oh, well, she was incurable anyway." This may justify his lack of courage but in no field of medicine or surgery is it more important "to know you are right and then go ahead." It may be said that in order to produce a cure a tumor must receive a dosage of three to five thousand roentgen units on the tumor—not the skin. As to whether a case is one for mere palliation or whether a cure is to be attempted must be determined by the radiation therapist and unless he is willing to take the responsibility of giving adequate treatment he is failing to do his duty. The present day trend in the better clinics and hospitals that are equipped with modern apparatus and manned by trained radiologists that are familiar with proper dosage measurements is to consider a patient as having some chance for a cure in almost every instance. In view of the fact that suits for malpractice are no longer the bugbear of the radiologist who is trying to give adequate treatment there is less excuse than ever for inadequate treatment. The physician and patient to-day accept the discomfort and distress and hazard of surgical procedure and they must be made to realize and appreciate the necessity for certain degrees of mutilation and discomfort and hazards with radiation. Both physicians and patients must realize that marked reactions in mucus membranes and skin are necessary if cells are to be killed.

Radiation treatment in cancer is a procedure that should not be undertaken lightly. Radium and x-ray are capable of great harm as well as good and tragic results in unskilled hands are common. The mere possession of x-ray apparatus or facilities for owning or renting radium does not make a radiologist any more than surgical ability is determined by the ownership of surgical instruments.

Radium Or X-Ray, Which? — The question frequently arises what should be used, x-ray or radium? In many instances either agent can be used with equally good results. Frequently one or the other agent is preferable because of the size and location, distribution or thickness of the lesion. In general it may be said that radium applied topically or interstitially is valuable in small superficial lesions. X-ray is preferable in large deep-seated lesions. However, in a great

many instances a combination of the two will produce the best results.

Such an instance is one of the most important conditions treated by radiation therapy, carcinoma of the uterine cervix. In this connection let me quote Louis C. Scheppey, Professor of Gynecology, Jefferson Medical College reporting in 1943 on 285 cases treated in the Gynecological Ward at Jefferson Medical College. He says "Of more interest is the manner of employment of irradiation therapy and the results achieved thereby. From 1921 to 1931 radium was used principally, most often as a single primary application. External irradiation with the x-ray was employed more or less sporadically during this time—subsequent to the local use of radium —and most often in instances of recurrences. From 1931 to 1934 roentgen irradiation was used much more frequently and systematically, subsequent to the radium applications, and as a regular plan of therapy. During this time, too, the x-rays were used more widely in far advanced cases. In 1934 and 1935 external irradiation first began to be used regularly as a preliminary procedure. Since 1936 preliminary external x-ray irradiation has been instituted as a routine procedure of choice and this plan is in vogue at the present time. ***** There is no doubt that the x-rays diminish local necrosis, slough and infection; pain and bleeding are frequently relieved as well."

To be effective radiation therapy must be carried out intensively at the first attempt. Repeated incomplete treatments seldom control the disease and *both* radium and x-rays must be used thoroughly and efficiently—radium alone cannot be depended upon, because the penetration of the gamma rays into depth are inadequate. The local application of radium in every instance must be supplmented by a full and thorough course of external radiation with x-ray. To do less is not giving the patient an even break in this most serious and too frequently fatal disease.

Supervoltage. — Much already has been said in this paper showing the trend during the past twenty years toward higher filtration, higher voltage and greater penetration. In the present state of our knowledge there is no reason to alter our concept of the modus operandi of the Roentgen and Gama rays. It is an ionization effect upon the living cells causing damage and if enough is administered causing death; with more penetration, the cells of deep-seated lesions can be reached with a minimum of damage to overlying tissues. It is obvious that a tumor 10 cm. below the surface should not be treated by irradiation which will be entirely or largely absorbed in the first 5 cm. of tissue, a greater filtration and voltage is needed—shorter wave lengths of greater penetration. These conditions of greater penetration may be met by increased filter and increasing the distance but at the expense of time. I say these conditions may be met but usually they are not due to economic and mechanical factors governing the conduct of the average busy radiological department. Who can spend one to two hours a day on a patient? However, these conditions are, in most instances, easily complied with, by adequately increasing the voltage into the range above 200,000 volts, that is 300,000 to 700,000 volts, the so-called supervoltage range. By getting into the range of these higher voltages, more filtration, greater penetration, shorter wave length, greater distance, many more cases are brought into the range of curability or at least increased palliation. Let me cite one such instance, bronchial carcinoma as reported by George W. Holmes in October 1942.

"The use of radium has been discontinued in the author's clinic in the treatment of carcinoma of the bronchus. It is possible with supervoltage roentgen rays to cause a complete disappearance of the primary tumor in selected cases without serious injury to the surrounding tissues. Rather large doses, up to 5,000 to 6,000 r. given through a small field carefully centered over the primary tumor, will often relieve the bronchial obstruction and establish drainage. In no case is it justifiable to give heavy irradiation to large areas of infected lung tissues. Malignant adenomata and epidermoid carcinoma are radioresistant, but palliative results have been obtained. Treatment by irradiation gives the best palliative results in the "oat-cell" and other highly malignant tumors, and at the present time should be the method of choice. In large radiosensitive tumors the daily dose, especially in the early stage of this treatment, should not be too great.

If a primary neoplasm is discovered early,

and there is a reasonable chance of a cure, the author believes that surgery offers the best possibility of a five-year survival."

It is now two years since I installed my 400,000 volt machine and I can definitely state that in deep-seated lesions such as carcinoma of the cervix, rectum and bladder and in resistant lesions such as osteogenic sarcoma, better results in my hands at least are being achieved than previously obtained with the ordinary "deep x-ray therapy" at 200,000 volts.

DISCUSSION

Dr. E. G. C. Williams (Danville): I came up today particularly because of Dr. Pettit's paper. Knowing him to be a very astute student of the cancer treatment problems and radiation, I wanted to hear what he would have to say. I was rather sorry that he did not cover the subject as listed: "Recent Trends in the Treatment of Cancer," and cover a little wider field rather than stay so closely to the radiation. But there are some thoughts that he has given us that are good, and a few things that I would like to mention. I do not know whether I am picking the wrong time to start an argument, but I believe any time is good.

In the first place, he speaks of sins of omission, and we can add to that, the sins of comission; because in the same paragraph almost he speaks of the alleviation treatment of known-helpless cancer patients. I think most of us who have been in cancer treatment work for many years and have made a study of it have about reached the place where we know whether there is any definite hope for cure of the patient or hope for definite relief of symptoms, and when a patient is beyond that place and somebody calls us and says, "Can't you give this patient some x-ray. It will help her morale or will help her feel that something is being done," my answer is, "Can't you operate on them just a wee bit more to build up their morale?" Let's not say that that is a morale-building proposition, at the expense of the value of radiation as seen by the public eye. When that is done it is definitely a sin of commission.

On the other side, sins of omission, he speaks of radiation and says that it must reach each cancer cell, and I would like to add to that, "and must be absorbed by that cancer cell in order to be effective."

Again he asks: What is the use of using some form of radiation that is absorbed mostly in the first 5 centimeters of tissue when the tumor lies below that 5 centimeters? At the same time, I would like to say: What is the use of treating the table under the patient? Let's adjust that wave length so that the greater amount of radiation is absorbed in the tumor mass itself and in the area to be treated. Even that is controversial. We will say it is 5 centimeters from the surface to tumor and 5 centimeters through tumor and then on through. We want that radiation absorbed in that 5 centimeters, between 5 and 10 centimeters.

My friend, Dr. Mayneord, at the London Cancer Hospital, said, "When you try to measure that, you are measuring the rate of change of the rate of change."

I said, "All right. Go ahead and measure." But that is what we want and we should use a radiation adjustable to that.

Then he speaks of the large and small fields and the variation in intensity with the size of field. This brings up the thing which is definitely controversial, and I am still reactionary enough to say that it is too bad that we have let our physicist friends talk us out of measuring radiation at the surface of the patient, and talk us into measuring radiation in the air, which means nothing at the surface of the patient and which means nothing in the change of the size of field. And it is only by knowing the radiation with back scatter on the field that you can determine skin changes that may be expected.

I appreciate that this is heresy, but nevertheless I still stick to it, that the radiation properly measured is measured at the surface.

Dr. Pettit: I wish to thank Dr. Williams for discussing my paper. Of course, as I said in my opening paragraph, a lot of these topics that I have mentioned are very controversial. The only thing I wanted to cite was trends as I have seen them.

With regard to the treatment of hopeless cases, I must say that within the past number of years — several years, at least — I have rather changed my attitude about giving treatment to hopeless cases. I have had a number of very startling surprises, and a number of cases that ten years ago I would have considered absolutely hopeless, I feel I have been able to render a great service; either a marked degree of palliation or even a cure.

I remember one woman I treated five years ago, advanced carcinoma of the uterine cervix, who was told by the Illinois Research Hospital to go home, there was nothing they could do for her. She is perfectly well today.

Another had an advanced recurrent carcinoma of the breast that was operated on at the Mayo Clinic, and she made sixteen trips back to Mayos for treatments. She had a tremendous edema of the arm and swelling of the neck and metastasis to her hip.

By intensive radiation without causing her very serious inconvenience, I was able to reduce that progress in the neck and shoulder and give her relief. Whereas, she had not been able to be out of bed, by treating that metastasis in her hip she was able to get up and lead a fairly comfortable life for nine months to a year, and died without any great amount of pain. I consider that is very much worth while.

What Dr. Williams says about measuring on the skin and the back scatter I most heartily agree with.

Thank you.

The optimist, seeing a half-filled glass of water will say it's half full, and the pessimist will say it's half empty.—*Town Meeting*

PROBLEMS IN THE CARE OF THE NEWBORN

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The problems in the care of the newborn are many and the more one studies this subject the more one realizes the importance of certain factors affecting these infants during this period.

The newborn period may be divided into two parts. (1) The first ten days to two weeks spent in the hospital, and (2) the next two weeks at home. For brevity sake I will discuss only those problems which arise in the hospital. The factors which enter into any phase of this problem are three:

1. Nursing supervision and care.
2. Adequate equipment.
3. Medical direction.

The nursing situation today is one which constantly needs our attention. Nurses are scarce and newborn supervisiors are at a premium. However the key to successful care of the newborn should depend upon one who has had special training in this field and who is able to instruct those under her in the importance of little things which mean so much in the management of a newborn nursery.

The second factor is adequate equipment. This does not mean elaborate and expensive apparatus, it does mean the absolute necessity of no overcrowding. A nursery may have the finest and most elaborate equipment but if too many babies are put into it, trouble starts, regardless of the precautions taken. Overcrowding means too close contact of the babies and usually this is followed by inadequate care and a breakdown of nursing technique. A definite limit must be placed on the number of babies in a nursery.

The third factor is medical direction. Too often the care of the nursery is left to the nursery supervisor and while this may be in good hands, it is not the proper arrangement. The management of this department should be under direct medical supervision. It is difficult for a supervisior to manage a newborn nursery if too many plans and techniques are ordered. These make for complication and confusion. One definite plan should be outlined for the normal newborn; if some special case presents itself, adjustments should be made. The physician in charge of the nursery should be trained and interested in the problem of the newborn so that situations which need study or change may be handled through the medical personnel.

These three factors must be regarded as essential before any discussion of individual problems is entered upon. Those I would like to discuss are: prematurity, the care of the skin, clothing, breast feeding, and circumcision.

The premature infant. What shall constitute a premature infant? This diagnosis should be applied to the product of conception after twenty-eight weeks or six and one-half calendar months or seven lunar months which will usually have a weight of 1,500 gm. or 3¼ pounds and a length of 35 cm. or 14 inches. There should be many concessions made to this definition. I feel that any infant whose weight is under five pounds should be treated as a premature infant and kept in the hospital until its weight approximates six pounds. One sign of prematurity which should be used more frequently is the lack of breast development in these infants. In observing a series of over 500 premature infants during a period of fifteen years, this sign was present in over 90 per cent. These small infants should be placed in a room apart from the general nursery because they need individual care and special nursing. A graduate nurse who has had special training in the care of premature infants should be in charge. They should not be handled too much and should not be removed from their cribs. The temperature of the room should always be between 75 to 90 degrees and a humidity of 65 per cent is best suited. The use of heated cribs or incubators is necessary and the liberal use of oxygen should always be available. This may be pure oxygen or a combination of 5 per cent CO_2. It may be necessary to give it continuously in some cases. I feel it is a good plan to use oxygen for a period of three to five minutes every two hours for the first few days on all infants under four pounds in weight. This seems to establish their respiration on a more constant basis and periods of cyanosis are much less frequent. Breast milk is the food of choice as it has been shown by clinical experience that there was greater susceptibility to disease and higher mortality rates in premature infants who

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received little or no breast milk. These babies should be fed small amounts by gavage or a medicine dropper. The amount of fluid depends on what the infant will tolerate, starting with one to two drams every two hours. This should not be increased too rapidly and the answer to how much and how often the baby should be fed is the individual infant itself. The early use of vitamins is necessary, such as concentrated vitamin D. Vitamin K used routinely is a good prophylactic measure. Vitamin C is preferably withheld for at least a week. The use of some form of iron such as ferri ammonium citrate 5 per cent solution should be started about the end of the second week. At times it is advisable to give small injections of subcutaneous fluid in 10 to 15 cc. amounts two to three times a day. In many communities, where hospital and nursing facilities make it impossible to care for premature infants, it would be a good plan to designate one hospital where these little ones could be given expert care. In Chicago this plan has worked out very well through the concentrated efforts of Dr. Julius Hess, Michael Reese Hospital, and the Health Department. A plan such as this is feasible for many smaller communities.

The care of the skin. Few physicians and hospitals are in agreement on the method to be used in the care of the skin of the newborn infant. It is a clinical fact that excessive irritation of the skin whether it be from bathing, application of antiseptic oils or ointments, the use of mercurial soaps, or the too brisk rubbing of the skin to remove the excessive vernix leads to the development of intertrigo, papules, benign pustules, or even impetigo. The infant's skin should be protected from excessive irritation regardless of the method of care adapted. In 1937 Sanford advocated the idea of no bathing of the infant's skin. It has been rather an interesting fact to have observed how the numerous methods for the care of the skin have been diligently used for short and long periods only to find that they all have many drawbacks. So many of these infants upon whom these various methods have been used have reacted with skin irritation difficult to control. In one institution with an annual birth rate of over 2,000 babies we have used the no bathing technique for the past six years and it has been gratifying to see how few if any irritations, pustular dermatitis and impetiginous lesions have existed. The plan we have followed has been to place the infant in the nursery as soon as possible after the delivery. There a nurse with care and no rubbing removes with cotton or gauze the blood and vernix. Let me stress the word care. No attempt to remove all the vernix should be made. This cleansing process is easy if it is done before the residue on the skin gets dry. The newborn skin after the delivery is soft and moist; no oils, ointments, soaps, sprays or water are necessary. After the original cleaning the infant is placed in its crib and from then on this is its private room during the stay in the hospital. The only time the baby is removed is for nursing. All the necessary nursing procedures and examinations are carried out in the crib. On first thought this no bathing procedure has objections, such as the baby seems unclean, the skin is dry, the odor is repulsive. All of these objections are unfounded. The dryness of the skin is present but as this superficial desquamation takes place there is beneath a soft, delicate, smooth skin. Sometimes the mother worries because the skin is dry. If the mother is told that this leads to less skin irritation and infection her fears are removed. This method of no bathing and less handling is a boon to the nursing situation; it reduces the work in about half. Instructions are given the mother on leaving the hospital to keep the skin dry at home during the first week.

The clothing of the newborn. This is also an important factor in the care of the skin. The garments alone if too bulky and heavy will cause excessive heat, resulting in perspiration which is usually followed by skin irritation. The clothing should be light in weight, easy to put on and take off, and not binding. How often have we seen some nurse struggling with a small shirt, trying to get the tiny arms through the sleeves. Then note the task of buttoning the shirt. After a few trips to the laundry, it is a buttonless shirt unless someone spends countless hours sewing them on. We have adopted a very simple garment, light in weight, no buttons, no pins, no sleeves, and only one small tie. This clothing does not bind the infant's arms and yet keeps it from rubbing its hands on its face and producing severe irritation. The only other article of clothing necessary is the diaper. The time consumed in changing these two articles is negligible

when comparing it to the shirt, nightgown, and diaper. My slogan is Keep the baby dry and cool. Do not wrap receiving blankets around them in the crib. Place covering over them, not too tightly and let them do a little kicking. The belly band is necessary until the cord falls off but after this it has served its purpose. The cord can be touched up twice daily with an alcohol sponge. On removal of the binder, it is one less garment to change, one less to get wet, one less factor to deal with in keeping the skin dry. While it is important to stress light clothing and little heat in the hospital, I feel we neglect a major point when we fail to impress the new mother about the child's garments at home. Too often the baby leaves the nursery without a blemish only to break out with a skin irritation within the first week at home. This results because the infant has been kept too warm. How many of you have noted all the clothing that goes with the modern layette? How many shirts, slips, bands, binders, stockings, booties, blankets, and snuggle robes are purchased. These are gifts of admiring parents and relatives. Nothing is too good or elaboate for the baby. Watch the nurse dressing the baby leaving the hospital. Regardless whether it is winter or summer, on go the garments. I often wonder if the designers of infants' clothing and equipment ever tried to use them. The more complicated the design the greater the cost, simplicity and serviceability sacrificed, the sufferer, the newborn infant. Let me impress on you the importance of keeping the infant cool at home. Remember the helpful nursemaid of years gone by is now working in the defense plant. You the baby's physician should safeguard the mother from the advice of all the relatives, neighbors, and well wishers.

Breast feeding. Breast milk is the ideal food for the newborn infant. We all admit it. We all know that infant mortality and morbidity rates, as shown by Grulee and his associates, are higher in the artificially fed infants. We know too that in the successfully breast fed infant the mother's well being is enhanced and her return to normal during postpartum is hastened by this physiological process. Knowing these facts what do we do to encourage breast feeding? Many obstacles beset the course of successful breast feeding. To name a few. Who educates the mother to the necessity of breast feeding her baby? Who instructs her in the care of her breasts before the baby arrives? So much can be done to correct depressed and inverted nipples, to prevent cracked nipples, and to get the mother accustomed to a certain amount of irritation of the breasts by careful instruction from the obstetrician. Together with this a good sales talk can be given the mother during this period to stimulate in her a willingness and positive desire to nurse her baby. This can all better be accomplished before the baby arrives than immediately after the delivery. This of course places the responsibility with the obstetrician because of his contact with the mother during the prenatal period. But I do not feel the great responsibility rests here alone. We in the hospitals are greatly to blame for the lack of breast feeding in our newborn infants. Too often during the first few days the baby is given too much fluid from a bottle. This feeding comes too easy, with too little exertion on the part of the infant. He is not satisfied to work hard at the breast for his sustenance and why should he when with a little crying he can compel the nurse to get the bottle. I feel that if we were not so quick with complementary and supplementary feedings during the first few days, if we only gave plain water instead of lactose, citrate, glucose, gelatin solutions, our percentage of successful breast feedings would increase. The initial weight lose should be thoroughly understood not only by the physician and nurse but by the mother, the father, and all of the relatives as well. In some nurseries where a daily quotation of the gain and loss is given out the interest becomes too great and instead of stimulating the breast to more secretion the result is just the opposite. A few years ago I took a series of about a thousand babies and divided them into five groups and to each a different prelacteal feeding was given. After making these observations as to weight loss, general well being, and aptitude for taking the breast, I felt no solution was much better than the other and that plain water served the purpose just as well. To satisfy myself that this weight loss was due to something more than the ingestion of fluids, I took a small group of twenty babies and gave them a hundred cubic centimeters of saline and 5 per cent glucose subcutaneously for the first four days. The weight loss of all these babies up to

the sixth day was 9 to 10 per cent. This weight loss I am sure is due to many factors other than intake of fluids. Such things as increased metabolic rate during the first few days, imperceptible perspiration, elimination of meconium, increased respiratory and muscular activity, all of these are more logical to explain this loss of weight. I also feel that if the policy to encourage breast feeding is known to the mothers in the hospital that an excellent "spirit de couer" can be elicited with one mother stimulating the other to a better mental attitude toward breast feeding. A routine plan for feeding the newborn is as follows: Nothing by mouth during the first twelve hours. It is during this time the infant can be observed for signs of cyanosis, cerebral irritation, and pulmonary accidents which would be contradictory to routine procedures. The second twelve hours give 1 to 2 ounces of plain water every four hours. The next twenty-four hours, place to breast every four hours, for only five minutes, giving 1 to 2 ounces of water after the nurse. During the subsequent days the breast feeding should be every four hours, omitting the 2:00 a.m. feeding.

In 1937 Blessing observed 493 cases of breast feeding for the purpose of determining just how long the mothers were able to successfully nurse their babies. In only seven cases were these mothers able to nurse their babies longer than nine months; 244 cases were weaned by the end of the third month; 365 cases by the end of the sixth month. These figures are discouraging. One factor which interested me was that the average age of the para was 27 years. I wonder what a similar study would show now when the age group has dropped to 18 to 20 years. Age is a big factor in the human as well as in the animal. Physiologically the young mother, all things being equal, has a better chance of nursing her baby.

The mother's state of mind is a very important factor. It is of course essential to be willing to nurse but it is not enough. The successful nursing mother undertakes her task with confidence as something natural, right and pleasant. She anticipates success and satisfaction in it, enough to compensate her for the inconvenience and she does not think too much about it. Worry and anxiety of any kind are fatal to successful nursing. It is not helpful to regard it as a difficult and doubtful scientific experiment. The mother who attempts to nurse while keeping note of every cry, every regurgitation of food, every stool passed, every quarter ounce gained or lost is doomed to failure more surely even than the unfortunate one who is forced to double the parts of nursing mother and harassed housewife. Other factors such as returning home to the "folks", living in crowded quarters, associating with older people who have not had their sleep and nerves disturbed by the wail of the lusty newborn; the need and desire of the mother to return to her job; the worry of the whereabouts and safety of the husband in service; all these at times will defeat the success of breast feeding. Knowing all of these obstacles, I feel with a little more diligence on the part of the obstetrician in his prenatal instruction to the mother, with the nurse holding back on the prelacteal feedings, except water, and making a concentrated effort to stimulate in the mother a willingness to nurse the baby, I am sure we will be more successful.

Circumcision. This operation is performed as a routine measure in too many cases and a review of some of the reasons for and against might make it a more selective procedure. If the question is asked, why do you want the baby circumcised? The answers are frequently: if it has to be done, it is better to do it while he is small; it is the usual thing to do to boys; it prevents masturbation; it will be easier to keep clean. We do know that it does not prevent masturbation. If the mother is instructed how to clean the penis there will be no difficulty. The operation is not without risk. Cases of diphtheria have been reported following this so-called simple operation. Cases of hemophilia have reacted poorly. What then should be our criteria for circumsion? If the foreskin is long with a pinpoint opening, and it is difficult to retract, then the advisability of operation should be considered. In the performance of this operation it is too often done in a very poor fashion, not always by the physician himself but delegated to an intern. To see these results at the end of two weeks one would hardly be satisfied with the work performed. One of the usual results is that too much of the foreskin has been removed. This produces too much scar tissue, and the penis in a state of erection resembles a chordee. Sometimes too much tissue is left on the dorsum with a large mass of tissue

hanging down in front of the glans. I feel that enough of the foreskin should be removed so that after healing the skin covers the corona of the glans. This makes the hygenic factor complete and still there is enough covering to preserve the sensititve nerve endings in the corona, Too much surgical scrubbing of the penis, abdomen and groin with soap and antiseptic solution produces too much irritation of the skin. This usually results in a pustular dermatitis on the fifth postoperative day. Smearing the dressing with vaseline also leads to rashes. The preoperative preparation should be limited to the cleaning of the penis only, keeping moisture and soaps away from the abdomen and groin. After the foreskin has been removed, then apply a piece of gauze soaked in tincture of benzoin. This makes for good hemostasin and the dressing does not have to be changed until it falls off at the end of one week. If the foreskin is left a little long, advise the mother to push the skin back once a day for about two weeks because preputial adhesions will form. Do not perform circumcision on even slight cases of hypospadius. The tissue which you remove may be necessary to use in plastic work in later years. My feeling about circumcision is that it should not be a routine procedure. Each case should be studied. If a house physician is delegated to do the work, at least see to it that he is shown how to do it. Do not be too rough in the preoperative care of the skin. Too much irritation leads to troublesome skin irritation.

These are only a few of the problems which occur in the newborn infant. There are many more but I feel if these are approached with good medical judgment and nursing care that their solution will be easier.

DISCUSSION

Dr. G. N. Krost, Chicago: In our nursery at Wesley the pediatricians have been given the privilege of taking charge of the nursery, with occasional exceptions when the obstetricians may have individual problems in certain babies.

In our nursery we wash the babies with plain water. We have individual crib technique, in these new plastic bassinets. We have tried non-bathing technique but the nurses seemed to object to it. They felt that the babies were not clean, but we did not give it a very thorough trial.

There was another short cut in cutting down nursing care, that we adopted, by following the suggestion of another hospital. St. Lukes has for a number of years done away with their cord band, after the first day, and they have used that, I think for four or five years without any danger and no cord infections. We have used it about six months, and it is quite a tremendous saving in time, and apparently is without risk.

We have had some rashes, when our hospital first opened, which were due to alkalinity of the baby garments and the linen but this was soon corrected. I think Sanford also found that he had that difficulty in the Presbyterian Hospital. A great many rashes were due to excessive alkalinity of linen. Now having the cooperation of the laundry engineer, these rashes have ceased to give us any difficulty.

We have all gone through the fads of feeding babies early, and I think we have more or less settled down to individualizing on a few babies, such as feeding babies that have been delivered by caesarean. The mothers are not likely to nurse them as quickly because of the anesthesia and opiates. By and large, we are giving the babies water until the breast milk comes in and if they fail to gain after the third to fourth day they are given complementary feedings, but we no longer use routine complementary feedings.

Dr. Paul E. Grabow, Chicago: I believe everything Dr. McEnery said, and especially do I believe the very first and last parts.

In the first part of his paper, he spoke about feeding of children, in order to prevent the initial weight loss of babies. I do not believe in feeding those children. I believe if a baby were to have food the first three days the mother would have it, but if she does not have it and there is a reason, then feed the baby. There are other reasons which I will not go into. I am glad to see some of the younger men thinking the same way.

Now about circumcision, there is one thing I think could be talked about a great deal more. I believe everyone should have an operation if it is necessary, but this routine of maltreating a human being I think is wrong. There are reasons sometimes, why a baby does need to be circumcised. There are babies, a few months old who have appendicitis and need to be operated. We do not operate on them routinely because we think they are going to have appendicitis, and I do not see any sense in routine circumcision at all. I think nature put that foreskin there for a purpose, and the purpose is good, and if there is any abnormality, it should be removed.

Dr. E. T. McEnery (Closing discussion): I want to thank the discussants for their kindness in not criticising the paper too severely.

Dr. Krost, you have not tried it long enough. It is rather surprising, I think, if you go into these hospitals and talk to the obstetricians and get their consent either to make it all or none, — you can not go part way; you have to keep water off them the entire stay in the hospital, and in some institutions, I mean where you have many men attending coming in, it is difficult to adhere to a definite technique; but I think if somebody is put in charge of the nursery and that person approaches the various obstetricians and

tells them about a plan which has been tried out in many hospitals, it is not in experimental stages now, it is a known fact you can prevent skin irritation by no-bathing; I mean by leaving that baby alone.

The difficulty is when somebody has to get a little water on them, somebody suggests a little ointment or mercurial soap. You can not be part way. You have to be all or none. I think if you would really try this no-bathing technique in the full sense of its meaning you would find out it works. There is no bathing while that child is in the hospital, and in fact I do not think you should give the mother a demonstration on the baby when it goes home. First of all, the mothers are taken into the room where it is too hot, they pay no attention to what the nurses say at all; secondly, you could do a better job by taking a doll and washing the doll than trying to wash a squalling baby.

So when they are in the hospital, I think no bathing from the first to the last day is the successful way.

Now about circumcision. I am grateful to Dr. Grabow for speaking of that. If some of the obstetricians could see some of the jobs they turn out they would be ashamed of them.

When I first started to think about this paper I was going to draw up some sketches of various circumcisions I have seen, and when I got to thinking of about ten different views I thought it would be one of these Krazy Kat cartoons, because it would be anything but plastic work.

A woman came into the dispensary not long ago and showed me the baby's penis, saying "the doctor had cut off the bottom of the penis and the baby did not urinate through the right place at all."

The child had not been circumcised at all, but she figured the doctor had injured the penis; but he had a hypospadius, and the mother felt the doctor had ruined her child's career by making a poor operation on the penis.

Therefore, when one sees these children, I think if you discuss it with the parents and find out why they want to have it done, why they thought it should be done, and explain to them that it is not always necessary. Talk to these mothers, and they think the children are born circumcised, they say "I have never seen a child that had a foreskin, and I think if it is not circumcised it will look strange later on in life," so I think if you would individualize this problem of circumcision it would save us a lot of trouble, and keep the children from a lot of irritation after circumcision.

A young Ensign, very insistent that he must have leave, was asked the reason by his Commanding Officer.

"My wife is expecting a baby," he replied.

"Listen, young man, remember this — you are only necessary at the laying of the keel. For the launching you are entirely superfluous."— *The Army Doctor*

VALUE OF SPOT FILMS IN RADIOGRAPHY OF THE GASTRO-INTESTINAL TRACT

Frank L. Hussey, M.D.
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The use of spot films in radiology for aid in diagnosis was probably first used in Germany. The term is used in a rather general way to apply to films taken by the interposition and exposure of a film in front of the fluoroscopic screen, so as to obtain a radiograph which is essentially the same as the fluoroscopic image. They may be taken as a series of exposures on one film or as individual exposures usually on 5 x 7, or 8 x 10 films.

In about 1911 Drs. Case, Carmon, and others began using the spot film device for diagnostic purposes in this country.

In about 1914 spot film devices were commercially produced in this country so that at present many men are using them daily in varying degrees for aid in x-ray diagnosis.

The mechanism of spot film work as related to the gastro-intestinal tract is simple. The value is great in that a record of the fluoroscopic image can be made on a film for later study. Defects that are seen in the outline of any individual region of the gastro-intestinal tract vary in appearance on change of the patient's position or on pressure to the studied region.

The routine use of both thick and thin opaque material in the study of the esophagus is considered essential to good radiographic work. The patient is studied in a standing position if possible. The use of horizontal and Trendelenberg positions are of value in certain conditions.

Diverticula of the esophagus are easily demonstrated. They usually fill more satisfactorily with thick material than with thin material. Pulsion diverticula of the upper end of the esophagus in their early stage are nothing more than very small addition defects and retain the material for only a second. As they increase in size they are more easily filled. When they have sufficiently increased in size to produce symptoms they are usually easily demonstrated. They fill with opaque material and retain it for varying lengths of time. Many times a film taken at

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the time of fluoroscopy visualizes the diverticula more satisfactorily than one taken later without the aid of the fluoroscope. Traction diverticula fill easily and can be recorded on spot films. Rotation of the patient to the best position for visualization makes this method of added value.

In carcinoma of the esophagus the filling defect, although relatively constant, varies as the character of the material used and the position of the patient. The defect is usually irregular and sometimes annular. It can be differentiated from spasm by the constancy of the defect. The fluoroscopic image of the lesion is usually the most satisfactory.

In stricture of the esophagus the lumen of this structure does not vary much. However, the visualization due to the amount of opaque material in the stricture may vary a great deal. Therefore, a film taken at the time of best filling will be the most satisfactory.

Ulcers in the lower end of the esophagus are not common and are difficult to demonstrate. Although defects seen fluoroscopically will probably not be seen on films taken later so that a spot film may visualize the defect.

Foreign bodies in the esophagus of non-opaque type usually produce some obstruction to the descent of the opaque material. The point of obstruction and the defect in the column produced are of value on spot film study in that what was seen fluoroscopically is recorded on a film.

Defects produced in the esophagus by pressure from aneurysm, mediastinal tumors and abscesses are visualized most satisfactorily by variation in the position of the patient so that a record of your fluoroscopic findings taken on a spot film gives you the most accurate record of the lesion.

Cardiospasm, if of clinical significance, is usually satisfactorily visualized on ordinary film examination.

Esophageal varices are usually best studied by the use of thin opaque material with the patient in a supine position although the use of thick material in a standing position is sometimes of value. Films taken at the time of distention by thick opaque material may demonstrate the corrugated outline of the esophagus. Or the ingestion of thin opaque material may reveal the irregular "fragmented" appearance of the esophagus between the varices in this condition.

In the study of diaphragmatic herniae in the region of the esophygeal hiatus Trendelenberg's position with applied pressure over the stomach will usually fill the portion of the cardiac end of the stomach projecting above the diaphragm. The stomach should already have been filled with at least two glasses of opaque material. When there is difficulty in determining the location of a small round collection of material above the diaphragm after the stomach has been filled additional material ingested in Trendelenberg position will usually locate this material as being in the esophagus or in a small herniation of the stomach. A film taken at the time the additional material reaches the diaphragm is usually of definite diagnostic value. When the patient is prone with the head of the table below the foot some herniae will fill that otherwise will not.

Pathology in the stomach wall is demonstrated by distending the stomach with opaque material and noting any defect in the outline. Or the ingestion of a small amount of special opaque mixture for visualization of the mucosal pattern may be utilized.

In studying tumors of the stomach wall, both of the above methods as well as the variation of the patient's position to demonstrate a lesion are of value. Here again a defect seen on fluoroscopic examination may give a clue to the nature of the lesion. A medullary carcinoma produces a subtraction defect which is irregular and ragged with change in the peristalsis and the flexibility of the stomach wall. A scirrhous carcinoma usually produces less defect in the stomach outline and a diminution in size with marked decrease in peristalsis and the flexibility of the wall.

Benign tumors are usually differentiated by the appearance of the defect which they produce and the appearance of the adjacent mucosa. Spot-films taken with applied pressure satisfactorily visualize the defect and the adjacent mucosa.

Benign ulcers of the stomach wall are usually found in the region of the lesser curvature. Consequently, applied pressure and position of the patient standing, supine, or otherwise, make spot film study of extreme importance in that a record is made of any niche defect seen. Incisural defects may be radiographed in the most

advantageous position to visualize them and the associated pathology.

Probably the best method of demonstrating ulcers of the duodenum is by films taken with applied pressure over the bulb. The bulb is flattened by the pressure so that the niche is revealed prominently. Associated spasm sometimes makes ordinary films of little value. Even in the presence of adhesions and contractures about old ulcer pathology an ulcer defect can be more satisfactorily visualized by pressure.

Diverticula of the duodenum are usually visualized on routine films.

Inflammatory lesions of the small bowel due to the rapid flow of material and spasm at times lend themselves to satisfactory visualization on films taken at time of fluoroscopic examination.

Tumors of the small bowel are rare and if seen on fluoroscopic examination will usually be seen on routine small bowel films.

In routine studies the colon is studied by use of descending material. However, barium enemas are the most satisfactory for diagnostic purposes. It is very important that the spot films be taken as the colon is being filled to record any variation from the normal in the outline. Rotation of the patient into both obliques as the sigmoid region fills is very important due to the normal sigmoid looping and due to the frequent presence of redundancy. Rotation to the right as the splenic flexure fills and to the left as the hepatic flexure fills is indicated. The colon is preferably filled in the supine position. Manipulation during the filling of the colon is important. The distal ileum is filled routinely so that it is definitely determined that the cecum has been filled. At this time the entire course of the colon should be reviewed fluoroscopically with the patient in a prone position and if any unusual outline defects are noted additional spot-films should be taken. The use of pressure and manipulation is especially important in the study of the cecum in order to visualize any defect and to determine the relation of the appendix and distal ileum to this structure.

In carcinoma of the colon the subtraction type of defect is usually easily visualized unless the bowel is over distended. Irregular carcinoma defects are more difficult to demonstrate. A lesion on one surface of the wall may not be visualized unless seen in profile due to the projection of the mass into the lumen. Change in the mucosal pattern may be determined on good films. Complete or partial obstruction to the passage of the opaque material into the colon at times makes it difficult to determine whether the lesion is due to intrinsic pathology or due to spasm or kinking. At times the head of the column may be visualized so that the character of the lesion may be determined on spot films.

Polyps, unless large, are usually most satisfactorily visualized on contrast studies.

Intussusception readily lends itself to spot film work in that a film of the obstruction can be taken quickly and if it reduces itself there is still a record of the fluoroscopic findings. The barium column of an enema in this condition is obstructed and the head of the column becomes cup-shaped. A thin collar of opaque material surrounding the invaginated portion of the colon may or may not be visualized.

In many instances tuberculosis of the cecum and ascending colon can be best demonstrated on spot films due to the increased motility of the bowel. The cecum is of irregular outline with changes in the outline during the examination.

Fistula at any point in the course of the gastro-intestinal tract on spot films taken at the time of visualization of an abnormal tract may so identify the involved structures that later films or repeat examination will not be necessary.

The routine use of spot films as an adjunct to radiographic examination of the gastro-intestinal tract is definitely indicated. There are probably other conditions than those mentioned above where there is spasm, a confusion of shadows or an element of motion where the use of the spot film device will be found to be of value.

CHEST PHYSICIANS CANCEL MEETING

The American College of Chest Physicians, with a membership in 23 countries, has cancelled its annual meeting scheduled to be held at Philadelphia, June, 1945.

The Executive Council of the College voted to hold a business meeting of the Board of Regents at Chicago, June 17th.

EDEMA OF THE EYELIDS IN INFECTIONS OF THE PARANASAL SINUSES

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Edema of the eyelids might be caused by various diseases. We shall limit ourselves to a consideration of the lidedema in infections of the paranasal sinuses inasmuch as these instances are rather frequent and not always properly diagnosed.

1. *Pathogenesis.* — Among the paranasal sinuses infections of the frontal, maxillary sinus and the anterior ethmoid most frequently cause lidedema while in infections of the sphenoid and the posterior ethmoid the post-septal part of the orbit viz., the part of the orbit posterior to the orbital septum, is primarily involved and the lidedema, viz., the infection of the pre-septal part of the orbit, is of minor importance.

The question, which sinus most frequently causes lidedema depends on the age group of the patients under consideration. Inasmuch as a frontal sinus is scarcely developed prior to the seventh year of life, lidedema in infants and in children below this age limit can not be caused by the frontal sinus, but by the maxillary sinus or the anterior ethmoid which have considerable size in that age. On the contrary, in adults the frontal sinus seems to be the principal offender.

Generally speaking, the lidedema in infections of the paranasal sinuses might be due to two types of pathologic changes: a.) an ostitis of the walls of the sinus or b.) a thrombophlebitis of the anastomosing blood vessels. If there is an ostitis of the floor of the frontal sinus, or the roof of the maxillary sinus or the lamina papyracea of the anterior ethmoid, the infection readily spreads into the adjacent soft tissue of the eye lids causing a lidedema. These cases usually require rhinologic operations and will not be discussed in details.

More important and more frequent is the lidedema due to a thrombophlebitis of the anastomosing blood vessels. The blood vessels of the frontal mucosa communicate with the blood vessels of the upper lid, the communication being established by the blood vessels which pass through the floor of the frontal sinus. Likewise the blood vessels of the maxillary sinus communicate with the blood vessels of the lower lid, this communication being established by the blood vessels which pass through the roof of the maxillary sinus. These anastomosing blood vessels might carry an infection from the paranasal mucosa into the upper or lower lid respectively without causing microscopic changes of the bone. This spreading of the infection naturally is encouraged if there is a great number of anastomosing blood vessels. This is the case in young individuals while in old individuals the number of anastomosing blood vessels definitely decreases. Consequently, lidedema due to infections of the frontal or maxillary sinus occurs more frequently in young than in old individuals. Nevertheless, we had a chance to observe a lidedema due to a frontal sinusitis in a woman, 64 years old. The case is as follows:

Case 1. R. S., 64 years old, white, female. She had suffered from high blood pressure for many years, but there was no diabetes. Two weeks ago she had intense headaches and the right eye was inflamed, but there was no fever. The diagnosis of a dacryocystitis was made.

The rhinologic examination revealed a slight deviation of the septum to the right. There was no pus in the nose, but there was a small amount of pus in the right side of the epipharynx. The temperature was normal. There was no tenderness of the trigeminal branches. The right upper lid was edematous and red and so was the right lower lid, to a lesser degree. There was some pus at the openings of the lacrimal canaliculi, but no pus could be expressed from the tear sac and the skin over the tear sac was normal. There was some proptosis of the right eye and a slight displacement downward. The right conjunctiva was markedly inflamed. The x-ray picture showed a cloudiness of the right frontal and maxillary sinus. After application of heat and ephedrine in the nose the lidedema decreased markedly, but there was pus in the right middle meatus of the nose. Two days later the eye was normal, but there was yet pus in the right nostril. After a simple shrinkage of the nose the patient was cured in one week. However, one month later the eye lids on the right side again were swollen and inflamed. The temperature was normal. During that attack, however, pus could be expressed from the tear sac through the superior canaliculus. The diagnosis of dacryocystitis was made. Simple application of heat cured the patient and there were no more recurrences.

In the case presented the rapid cure after application of conservative measures proves that the lidedema was not due to an ostitis of the

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floor of the frontal sinus, the infection was carried rather from the sinus into the lids along the anastomosing blood vessels although usually the anastomosing blood vessels are obliterated in that age. The dacryocystitis which caused the second attack of lidedema, originated probably from the conjunctivitis in the course of the first attack. Both attacks resolved after application of heat and shrinkage of the nose; no sulfa drugs were administered.

While there is a direct communication between the blood vessels of the frontal and maxillary mucosa on one hand, and the blood vessels of the lids on the other hand, the blood vessels of the ethmoid mucosa anastomose directly with the blood vessels of the periorbit viz., with the blood vessels of the periosteum of the orbit, the anastomosis being established by blood vessels which pass through the lamina papyracea. The number of the anastomosing blood vessels is great in infants and decreases gradually in the later periods of life. Therefore, in infants and in young children infections of the ethmoid frequently are carried into the orbit along the anastomosing blood vessels while in adults infections of the orbit, originating in the ethmoid, are more frequently due to an ostitis of the lamina papyracea.

When the infection has invaded the orbit, it causes in mild cases a congestion in the space between the periorbit and the lamina papyracea. In that space the infection invariably spreads forwards, passes the orbital septum and causes a lidedema.

On account of the numerous anastomosing blood vessels between the ethmoidal mucosa and the periorbit, the lidedema is perhaps the most conspicuous symptom of ethmoiditis in infants and young children. In addition there might be occasionally meningeal symptoms, a high degree of fever and exophthalmos. All these symptoms give the impression of severe illness. Nevertheless, the symptoms usually disappear after simple conservative measures as shrinkage of the nose and administration of sulfadrugs. Surgery is rarely required, in many cases it is more harmful than beneficial to the patient.

We saw a number of instances of that type. Two cases might be reported to demonstrate the protean symptomatology in ethmoiditis of infants.

Case 2. D. G., 2 years old, white, female, had a head cold for one week. Epiphora and redness of the right eye were noticed. In addition there was a slight degree of fever and vomiting. In the course of several hours both eye lids became swollen so that the right eye was shut closed. Two days later there was considerable swelling and redness of both eye lids on the right side, the conjunctiva was red, the pupils equal. There was no pus in the conjunctival sac. The nasal mucosa was edematous and there was a mucopurulent discharge from the nose. The pharyngeal mucosa was red and the tonsils edmatous; the temperature was normal. Shrinkage of the nose was applied. Two days later the lidedema had markedly decreased and three days later the lidedema had completely disappeared. The x-ray film showed a haziness of both ethmoids and both maxillary sinuses; the frontal sinuses were not developed yet.

Case 3. McD., 3 years old, white, male, had a head cold and fever up to 102°. A day later the temperature fell to 99°, but 4 days after the onset of the cold the temperature again rose to 102.5° and a swelling appeared in the inner angle of the right eye above the internal palpebral ligament which rapidly spread over the entire upper lid. There was a slight proptosis of the right eye, but there was no chemosis and the eye grounds were normal. The nasal mucosa was red, but there was only a small amount of pus in the nose. There was a leucocytosis of 18500 leucocytes. The x-ray showed that frontal sinus was not developed while the ethmoidis were cloudy. Sulfadiazine was given and shrinkage of the nasal mucosa instituted. Five days after the onset the temperature was 101°, but the child was drowsy and a spinal puncture was performed. In the spinal fluid there were 88 lymphocytes, 88 mg. glucose and the total protein was 0,014 mg. No surgery was performed, but sulfadiazine and shinkage of the nose were continued and the boy was cured about 2 weeks after the onset of the disease.

In both cases the lidedema indicated an ethmoiditis and in both cases a cure was accomplished by simple conservative measures although in case 3 there were marked systemic symptoms as fever, leucocytosis and meningeal symptoms. The treatment consisted of shrinkage of the nose and administration of sulfadrugs, the former being of major importance.

The symptomatology becomes different if the infection spreading along the anastomosing blood vessels from the ethmoid mucosa into the orbit, causes an actual accumulation of pus between the lamina papyracea and the periorbit, that is, a subperiosteal abscess of the orbit. In these instances the disease continues for a longer period of time, exophthalmos, displacement of the eye and transitory eye muscle paralysis are more

prominent than lidedema. The systemic and meningeal symptoms are marked, which, however, are not significant for subperiostal abscess as these symptoms might be very conspicuous even in simple congestion of the orbit as proved by case 3. Subperiosteal abscesses of the orbit are not common either in infants or in adults. The following case concerns an infant.

Case 4. K. U., 8 months old, white, male. Three weeks ago the right eye suddenly proptosed but there was no lidedema, no redness of the lids and no pains. The exophtalmos subsided a little, but pus was found in the conjunctival sac every second day. There was no fever at any time.

On admission, on November 1, 1940, there was a marked exophthalmos on the right side. The eyelids were red and cyanotic, there was some restriction of the motility of the right eye the reaction of the pupils to light and accommodation was normal and the right papilla was slightly red. Nose and ears were normal. The child was put on sulfathiazole. The x-ray study on November 5th, revealed normal optic foramina, but a definite cloudiness of the right ethmoid and the right maxillary sinus. There was purulent discharge from both nostrils. On November 6th, a secretion was noted from both ears and in the pus diptheroid bacilli and staphylococci were found. On November 7th, the temperature rose to 102°, but was normal on the next day. On November 13th, the temperature again rose to 102° and fell on November 14th to 101°. The exophthalmos did not show any changes. On November 18th, the temperature rose to 105°; there was an enormous discharge from the nose and from the ears, but the child was apparently comfortable. On November 19th, the temperature was normal. On November 27th, sulfathiazole was discontinued and immediately the temperature rose to 102° and 103°, but the child did not show signs of discomfort. The exophthalmos was not changed; the right eye was displaced downwards, and there was a marked abducens paralysis on the right side. There was an intense discharge from nose and ears. After administration of sulfathiazole, the temperature again became normal but there was no change of the other symptoms. On December 7th, the exophthalmos had markedly subsided, but was again marked on December 9th. The eyelids were normal, there was no fever, but the child was irritable. If sulfathiazole was discontinued the temperature immediately rose up to 104°. On December 27th, there was a marked edema in the inner angle of the right eye, the exophthalmos did not change, there was only slight rise of temperature although sulfathiazole was not given. On the next day the temperature became normal but since January 12th there were daily rises of temperature up to 100.6°. The eye symptoms did not improve.

On January 18th, the orbit was explored. Immediately behind the posterior lacrimal crista a narrow fistula was found in the lamina papyracea leading into the ethmoid. At that site the periorbit was torn and the orbital fat protruded through the perforation in the periostreum. A piece of the fat was removed and the microscopic examination revealed a great amount of polymorphonuclear leucocytes within the capillaries of the fat, forming leucocyte-thrombi in some blood vessels. The wound was drained and partially closed. On January 22nd, the dressing was changed. There was no fever, but the exophthalmos had increased and the lid edema was very marked. A greater part of the wound was open and the child was again put on sulfathiazole. In the next days the eye symptoms subsided to a certain extent and there was no fever. On February 11th the temperature rose to 103° and there was an intense discharge from the nose. The exophthalmos had almost disappeared, but the edema of the right upper lid was marked. On February 17th the temperature was 101° to 102°, the child was irritable, both eyelids were edematous on the right side, the exophthalmos was even more marked than prior to the operation, there was a slight conjunctivitis and a marked discharge from the nose. Shrinkage of the nose and infrared heat were applied. On February 21st the temperature was normal, there was no discharge from the nose, no orbital symptoms except a marked exophthalmos. In the next days the eye symptoms subsided and the child was discharged, slightly improved.

In the following weeks, there was a continued improvement without further medication. On April 18th, the right eye receded to its normal position but there was a definite swelling in the inner angle of the right eye, with a fistula which drained occasionally. Gradually these symptoms also subsided, and on June 6th, 1941, the child was cured.

In the presented case, the ethmoid did not cause any congestion of the orbit, nor was there any pus. The findings were as follows: there was a narrow fistula in the lamina papyracea and the periorbit was adherent to the fistula so that it was torn at that site during operation and the orbital fat protruded. The orbital fat was not inflamed, but the capillaries showed a conspicuous filling with leucocytes. It can be reasonably assumed that there was a subperiosteal abscess, that the pus escaped through the fistula of the lamina papyracea into the nose so that the abscess resolved with formation of scars between the ethmoid and the orbit.

According to the diagnosis the principal symptoms were exophthalmos, displacement of the bulb and a transitory paralysis of the abducens. The fever was marked, but the meningeal symptoms were only suggested. The condition lasted more than six months. This finding is contrary to the finding in simple congestion of the orbit.

Sulfathiazole had a definite effect on the fever, but no effect on the eye symptoms, while shrinkage of nose, infra-red heat and proper diet were of benefit. There was no improvement with surgery, nor did it decrease the duration of the disease. Inasmuch as at the operation the thin periostium was injured it was to a certain extent harmful. This indicates that in orbital infections of infants, originating in the ethmoid, conservative measures should be employed as long as possible, viz. as long as meningeal or systemic symptoms or persistence of lid edema do not render surgery imperative.

2. *Pathology.* — When the infection travels along the anastomosing blood vessels from the sinus mucosa to the lid, a simple edema develops within the pre-tarsal portion of the lid. The skin of the lid is bulged out and red. Even in marked edema the sulcus tarso-orbitalis can be seen although somewhat flattened, and the free margin of the lid is involved only to a small extent. This finding is important as in exophthalmos the lid is also bulged out and might be even pinkish red. However, in exophthalmos the sulcus tarso-orbitalis becomes definitely flattened even in the incipient stage of the disease. Furthermore, in lidedema due to infections of the free margins of the lid (hordeolum, chalazion, herpes) the edema is most marked at the free margin of the lid, a site which in lidedema of paranasal origin is involved to a minor degree.

If the infection has spread along the anastomosing blood vessels the lidedema usually resolves spontaneously if the sinus infection subsides. That is the usual finding. If the edema spreads over the forehead, cheek, or the bridge of the nose the cause is more than a simple acute sinusitis and requires attention from the rhinologist. In rare instances of that type the lidedema progresses to the formation of an abscess.

However, if the lidedema is due to a necrotic ostitis of the underlying bone it usually progresses to the formation of an abscess which, in turn, may result in a fistula of the skin unless the underlying ostitis is properly treated. Even in these cases the abscess does not perforate the tarsus nor the conjunctiva of the lid, but almost invariably the skin.

3. *Localization of Lidedema.* — In progressed cases the edema involves the entire length of one or both eye lids and no conclusions can be drawn concerning the origin of the edema. If, however, there is a chance to observe the initial stage of the edema some conclusions of practical importance can be deducted. Although the lidedema per se like any other single symptom does not allow a definite diagnosis the following rules may be of help:

1. Lidedema due to infections of the maxillary sinus involve the lower lid first, while lidedema due to infections of the frontal or anterior ethmoid sinus involve the upper lid first.

2. Lidedema due to infections of the ethmoids involves the skin over the frontal process of the maxilla and extends rapidly lateralwards. It is localized above the internal palpebral ligament.

3. Lidedema due to a dacryocystitis involves the same area as lidedema due to ethmoiditis, but it is localized below the internal palpebral ligament.

4. Lidedema due to infections of the frontal sinus makes its first appearance either in the mesial or in the lateral portion of the upper lid. If the temporal recess of the frontal sinus is not developed or not infected the lidedema involves almost the same area as the lidedema in ethmoiditis. However, in frontal sinusitis the skin over the frontal process of the maxilla is not involved or is involved to a lesser degree. If the infection involves a well developed temporal recess of the frontal sinus the lidedema makes its first appearance in the lateral portion of the upper lid.

These rules will be of help in determining the proper diagnosis and treatment in an individual case. The vague diagnosis of "lidedema" should not be made, if possible, and should be replaced by a more exact description of the type and localization of the edema.

DISCUSSION

Dr. Hans Brunner, Chicago: There are two comments I wish to make on this subject. In Dr. Folk's paper, lid edema due to thrombophlebitis of the anastomosing blood vessels was particularly emphasized. In such instances the lid edema must be considered as a collateral hyperemia which surrounds an accumulation of pus; hence, the edema subsides when the localized accumulation of pus within the sinus is properly drained. A transformation of the collateral hyperemia into an actual lid abscess is a rare occurrence. If, however, the lid edema is due to osteitis of the bone, the collateral hyperemia of the lids usually changes into an abscess which either perforates through the skin or requires incision. The incision

should always be followed by examination of the underlying bone to ascertain whether osteitis or sequestrum is present. If bone pathology is found, simple incision of the skin is not sufficient and proper drainage of the paranasal sinus should be performed.

I should like to stress the last statement of Dr. Folk. The diagnosis of "lid edema" has no more meaning than the diagnosis "perforation of the ear drum." Every otologist knows that a perforation in the anterior and inferior quadrant of the drum indicates quite another disease than does perforation of Shrapnell's membrane. Likewise, edema of the lower lid means something quite different to edema of the lateral portion of the upper lid, as pointed out by Dr. Folk. Obviously further observations are necessary to judge whether the clinical diagram presented by Dr. Folk, is correct or not; however, at present it is unquestionably helpful.

GONORRHEAL OPHTHALMIA NEONATORUM

A Case Report

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This case of gonorrheal ophthalmia neonatorum is presented because the blindness which ensued could, in all probability, have been prevented if proper therapeutic measures had been taken. The present-day relative rarity of extensive destruction of the eyes in this disease is indicated by the fact that only five similar cases have been recorded in Illinois in the past eleven years.

CASE HISTORY

The infant, a white male, was born in December, 1943 in Central Illinois. The birth certificate stated: "Treatment of eyes at birth — silver nitrate, one per cent." The mother denied having had any vaginal or urethral discharge prior to the delivery. The latter had been entirely uncomplicated, as far as she knew.

She stated that her baby had a "cold in his eyes" a few days after birth, and that a bloody purulent discharge was present in both eyes until three weeks post-partum. Her attending physician allegedly informed her that this was not unusual. As a result, ophthalmological consultation was not had until the child was three months of age, by which time irreparable corneal damage had occurred. Six months later the case was referred to the Illinois Eye and Ear Infirmary.

Ophthalmological Examination. — On admission, the right eye showed a staphyloma of the cornea of such magnitude that the lids could not be closed over it. The left eye was in a state of phthisis bulbi. The mother stated that the left eye had previously had a "bulge", but that it had "burst" spontaneously. From the behavior of the child it was obvious that it did not perceive light.

The child fortuitously died in his sleep during his second night at the Infirmary. No operative procedure had been performed, and no cause of death was apparent. The coroner's diagnosis was status thymico-lymphaticus.

COMMENT

In the case presented, the presence of a Neisserian infection in the mother had not been recognized. According to the birth certificate, the newborn did receive the Crede treatment. The course of the ophthalmia was so characteristic of Neisserian infection that the other etiological possibilities need not be considered. The occurrence of gonorrheal ophthalmia in a newborn that had received the prophylactic treatment forces one to assume that either the technique of the latter was faulty or that the treatment had been given several hours after the infection had taken place.

In all probability, the diagnosis of gonorrheal ophthalmia could have been made during the first week post-partum, simply from the clinical findings. The reaction which may follow the use of silver nitrate does not persist for more than a day or two. It is to be remembered, also, that there is an absence of tears at birth. Consequently, any conjunctival discharge in a newborn, even watery, is to be looked upon with suspicion. The Department of Public Health of the State of Illinois considers any inflammation, swelling or discharge of the eye or eyes present "at any time within two weeks after the birth of the infant" as ophthalmia neonatorum.

Gonorrheal ophthalmia neonatorum begins as a conjunctivitis. Corneal involvement, the cause of blindness, is always secondary to the conjunctival infection. Prompt efficient treatment, instituted while the infection is yet confined to the conjunctiva, can usually prevent corneal complications. The urgency with which treatment must be started is indicated by the Department of Public Health regulation which states that "it shall be the duty of any physician . . . . . observing or having reasonable opportunity to observe ophthalmia neonatorum . . . . . *within six hours thereafter to report in writing or by telephone followed by a written report such fact to the local health author-*

From the Illinois Eye and Ear Infirmary, The University of Illinois.

ities. . . . .". The Department of Public Welfare has no record of the case discussed herein having been reported to them.

SUMMARY

A case of gonorrheal ophthalmia neonatorum is reported in which blindness resulted.

In violation of the laws of the State of Illinois, the case was not reported to the local health authorities, nor were the proper therapeutic measures instituted.

IRRITATIVE EFFECTS OF SMOKE FROM TOBACCO TREATED WITH GLYCERINE AND DIETHYLENE GLYCOL[1]

W. D. McNally, M.D., W. Bergman, Ph.C., R. H. K. Foster, M.D.[2]

CHICAGO

Since performing experiments several years ago comparing the irritating properties of smoke from tobacco treated with the hygroscopic agents, glycerine and diethylene glycol, several papers have appeared on the subject, and it seemed advisable to report our own results even at this late date.

Mulinos and Osborne[1] found smoke from diethylene glycol-treated tobacco less irritating than smoke from glycerine-treated tobacco. They used edema in rabbits' eyes as the criterion. Flinn[2] cited clinical experiments indicating less irritation when diethylene glycol was used. Wallace, Reinhard, and Osborne[3], using the Mulinos and Osborne technique, confirmed the latter's results, saying that edema was the most definite evidence of irritation. Ribeiro[4] advocated the use of diethylene glycol in cigar tobacco instead of glycerine. This recommendation was based on the presence of acrolein in cigar smoke. However, Flinn stated that acrolein occurs in all tobacco smoke regardless of the hygroscopic agent.

In contrast to the above conclusions, several authors found no significant difference between the two types of smoke. Sharlit[5] gave the opinion based on his own subjective experience that no differences existed. Ballenger and Johnson[6], in a clinical report, stated that the hygroscopic agent was not a significant factor in nasal or throat irritation caused by tobacco smoke. They found that omission of either hygroscopic agent gave evidence of increased irritation both objectively and subjectively. This observation runs parallel to that of Titkemeyer[7] who observed higher combustion temperatures in untreated tobacco and explained the observed increased irritation on this basis. Holck and Carlson[8], using salivation in human subjects as the criterion of irritation found equal irritation from glycerine and diethylene glycol-treated tobaccos but slightly greater irritation (though not significantly so) from untreated tobacco. Haag[9], using hyperemia in rabbits' eyes as the criterion, found no difference. He stated that hyperemia is the "cardinal criterion" and that edema varies too greatly to be useful. Actually, his results gave a slight edge to glycerine-treated tobacco both for irritation and toxicity (solution of absorbed smoke), although the differences were obviously not significant, and he made no claim beyond "no significant difference". Ballenger[10],[11], in further clinical studies, reported no difference. Analogous to Haag's work, he found slightly more unfavorable results from untreated tobacco, somewhat less from diethylene glycol-treated tobacco, and least from glycerine-treated tobacco, but these differences again were slight and not significant. In a discussion of Ballenger's paper, Jarvis pointed out that moistening about 1/4 inch of the mouth end of the cigarette with saliva greatly reduced the number of smoke particles coming through with each puff and that "smokers' coughs" tended to clear up using this technique. Weatherby[12], using the trypan blue technique involving intradermal injections in rabbits' ears, also found no difference between the two types of smoke.

This brief review has been made to show the lack of agreement among observers. Our own work, done prior to the publication of all but Mulinos and Osborne's report, is in complete harmony with the view that no significant difference exists. Many of the authors cite the difficulty in interpreting the observations, both clinical and laboratory, yet Mulinos and Osborne were able to note 8 different degrees of edema! If differences in effects are so slight as to be difficult to classify by the majority of observers, how can such differences have *any* practical significance? Furthermore, proof of the significance of a very slight difference would,

1. These experiments were performed in 1934. The data have been used in court testimony.

2. Present address: Hoffman-La Roche, Inc., Nutley 10, N. J.

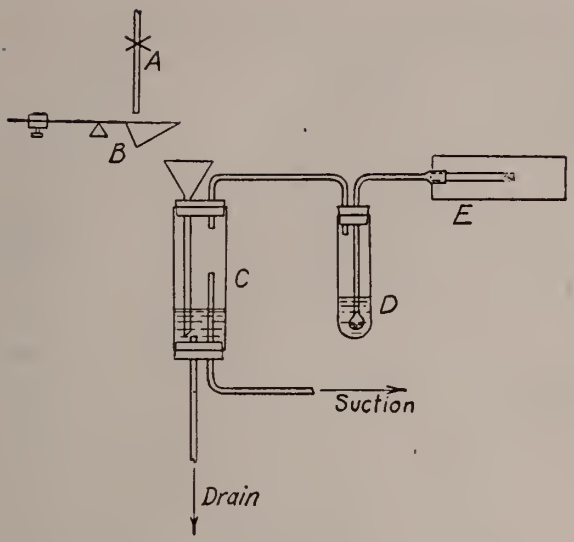


FIGURE I
DESCRIPTION OF APPARATUS

Constant suction from a water pump is applied as indicated in the sketch. When reservoir C ("a water valve") is empty, air is sucked in both through the funnel and through the drain. When water partly fills the reservoir as shown on the sketch, air enters through the cigarette at E and bubbles through saline solution D. Water flows intermittently into the reservoir C by means of the trip bucket mechanism B, the water flowing constantly from source A. To prevent drafts, the cigarette at E is surrounded by a jacket open at both ends.

on account of the observational errors, require a great number of observations. Our experiments, though not extensive, gave no suggestion of any advantage to the diethylene glycol-treated tobacco.

We followed the technique of Mulinos and Osborne as closely as possible, except, however, that we used hyperemia as the criterion of irritation rather than edema. The apparatus was constructed according to their description. Figure No. 1. Briefly, the apparatus consisted of a device for the intermittent puffing of cigarettes, the effluent smoke for 5 successive cigarettes being absorbed in 3 cc of normal saline solution. Cigarettes were made from a weighed amount of tobacco in a hand-operated cigarette roller. A stock of untreated cigarette tobacco was used, and portions of this were treated to give concentrations of 3 and 5% of the two hygroscopic agents, glycerine and diethylene glycol.

Two or three drops of the saline solution containing absorbed smoke were instilled into the conjunctival sacs of rabbits' eyes. Observations were made for inflammatory reactions, examining these eyes at intervals until recovery had occurred (about 1 hour). In each rabbit, the drops were instilled in the right eye, and the left eye served as the untreated control. A transient blepharospasm always occurred (as it does even from saline); but after a few seconds, the lids opened, and there were no apparent differences from the untreated eyes in the width of the palpebral fissure. The average time to the maximum degree of irritation was 10 minutes.

The gaging of the degree of inflammation was not easy. The mere manipulation in everting the lids caused some hyperemia and blepharospasm. This of course gave difficulty in interpreting slight reactions even though the same thing occurred with the control eye. The manipulations were naturally as uniform as possible. We have used the symbol 4+ for the maximum irritation observed. This was much less than the severe injection and chemosis that may be observed with a strong irritant such as mustard oil. Usually, there was no edema or lacrymation, so that hyperemia appeared the best criterion to employ just as concluded by Haag. This appeared first on the palpebral conjunctiva, and in stronger reactions, on the bulbar conjunctiva.

The data from the tests are given in the table. The data have been averaged, and the results show no significant differences in the degree of irritation. The untreated tobacco gave a 1.2+ degree of irritation. The glycerine-treated tobacco gave 1.8+ and 1.1+ for the 3% and 5% concentrations, respectively, and the corresponding values for diethylene-treated tobacco were 1.3+ and 1.6+. The P* value for the comparison of the 3% concentrations is 0.8. Although the 5% glycerine showed less irritation than the 5% diethylene glycol, the P value for the difference is 0.2, which indicates there is definitely no significance to the difference.

SUMMARY

Experiments were performed on the irritating properties of smoke from tobacco treated with

*P equals probability differences, are not statistically significant unless P is less than 0.05.

IRRITATIVE RESPONSES OF RABBITS EYES CAUSED BY INSTILLATION OF SOLUTIONS CONTAINING ABSORBED MATERIAL FROM TOBACCO SMOKE

Condition of Tobacco	Rabbit Number	Maximum Irritation	Mean Max. Irritation	
Untreated	1, 3, 6, 10, 11	+, +, +, +, 2+	1.2+	±0.2
3% Glycerine	2, 7, 12	±, 2+, 3+	1.8+	±0.8
5% Glycerine	2, 4, 5, 8, 9, 9, 11, 14	±, ±, +, +, 2+ +, +, 2+	1.1+	±0.2+
3% Diethylene Glycol	3, 8, 10, 13	0, 4+ +, 0	1.3+	±0.9
5% Glycol	1, 4, 6, 7, 10 11, 15, 15	3+, +, +, +, 3+ +, +, 2+	1.6+	±0.3+

Inflammatory responses:

4+ = "considerable" inflammation of both bulbar and palpebral conjunctiva but with very little endema. The other symbols indicate correspondingly less irritation.

glycerine and diethylene glycol using the technique of Mulinos and Osborne. We could find no significant difference between the smokes from these two types of tobacco or between either of these and the smoke from plain tobacco.

REFERENCES

1. Mulinos, M. G. and Osborne, R. L.: Pharmacology of Inflammation: III. Influence of Hygroscopic Agents on Irritation From Cigarette Smoke. Proc. Soc. Exp. Biol. Med. **32**:241, 1934.
2. Flinn, F. B.: Some Clinical Observations on the Iufluence of Certain Hygroscopic Agents in Cigarettes. Laryngoscope **45**:149, 1935.
3. Wallace, Reinhard, and Osborne, R. L.: Influence of Hygroscopic Agents — Glycerine and Diethylene glycol — On Irritation From Cigarette Smoke. Arch. Otol. **23**: 306, 1936.
4. Ribeiro, F.: Notes on the Irritating Action of Cigar Smoke. Arch. hyg. saude. publ. **2**:289, 1937.
5. Sharlit, H.: Cigarette Smoke as a Health Hazard. N. Y. State Jour. Med. **35**:1159, 1935.
6. Ballenger, H. C. and Johnson, V. H.: Effects on the Throat and Conjunctiva of the Hygroscopic Agent Used in Cigarettes. Arch. Otol. **25**:75, 1937.
7. Titkemeyer, W.: Active Substances from Tobacco Smoke and Their Absorption in the Human Body. Med. welt. **11**:209, 1937.
8. Holck, H. G. O. and Carlson, A. J.: Alleged Influence of Glycerine and Diethylene Glycol Upon the Irritating Qualities of Cigarette Smoke. Proc. Soc. Exp. Biol. Med. **36**:302, 1937.
9. Haag, H. B.: Studies on the Physiologic and Toxic Properties of Cigarette Smoke. J. Lab. Clin. Med. **22**: 341, 1937.
10. Ballenger, H. C.: Objective Evidence of Throat Irritation from the Hygroscopic Agent in Cigarette Smoke. Trans. Amer. Laryngol. Assoc. **60**:297, 1938.
11. Ballenger, H. C.: Irritation of the Throat from Cigarette Smoke. Arch. Otol. **29**:115, 1939.
12. Weatherby, J. H.: A Method for the Quantitative Estimation of Chemical Irritation. J. Lab. Clin. Med. **25**:1199, 1940.



Physical Medicine Abstracts

John S. Coulter, M.D.

PARIETAL NEURALGIA

R. H. McDonald, M.D.

In CLEVELAND CLINIC QUARTERLY, 12;1;31
January, 1945

Parietal neuralgia is induced in the great majority of cases by some pathologic process or by pressure upon the spinal nerve root, usually at the point where it emerges from the intervertebral foramen. The commonest cause in older patients is undoubtedly a hypertrophic arthritic process of gradual encroachment upon the foramen. In younger patients the question of postural strains must be considered. Structural scolioses, injuries and tumors of the bone may be readily recognized, but functional scoliosis may escape notice. This will only be seen by careful examination of the patient's back and posture. Any complete physical examination must include careful observation of the patient's back, preferably with the patient standing in his bare feet.

Treatment of parietal neuralgia depends upon the process which has caused it. In the arthritic patient the use of heat and massage over the affected area will be of value. Limitation of the movement of the spine by adequate braces may be useful, and x-ray therapy to the spine has apparently been beneficial. Avoidance of prolonged walking and standing and a period of recumbency in a firm bed may be useful from a therapeutic viewpoint and also as an aid in diagnosis. In the case of younger persons, especially those of asthenic type, the use of graduated postural exercises is of chief importance. By their use muscle tone is improved, and ligamentous strain is relieved. Marked improvement of peripheral circulation is frequently seen in association with deep breathing exercises, and an improved position and circulation of the abdominal viscera often alleviates the indefinite gastrointestinal symptoms of which these patients complain. A short lower extremity may be corrected with a lift in the heel sufficient to cause the pelvis to be level and to restore the symmetry of the spine, thus overcoming the mechanical basis for strain. Adequate rest is also beneficial and may be all important in the chronically exhausted individual.

EVALUATION OF TREATMENT IN THROMBOANGIITIS OBLITERANS
(Buerger's Disease)

Emil J. C. Hildenbrand, M.D., Washington, D. C.

In SOUTHERN MEDICAL JOURNAL, 38;3;179
March, 1945

Exercises of the Buerger-Allen type modified by Wright are indicated in all cases. Baths should be limited to compresses of saline or boric acid if ulceration and infection are present for 30 minutes twice a day. For mild cases, some of the advertised warm mineral baths are beneficial, but similar results can be obtained in a bath tub or whirlpool bath. Water will macerate poorly nourished tissues and open avenues of infection. The passive vascular exercising apparatuses are of value only when the predominant findings prove to be organic occlusion and the vasomotor have been eliminated, as they increase blood flow through relatively rigid arteries by rhythmically increasing intra-arterial pressure or decreasing the pressure within the ischemic tissue. Ultraviolet blood irradiation brings some promise, but further investigation is necessary. Heat is very helpful in all cases, but its proper application is essential. The affected

extremities should be exposed to none other than room temperature or below. A beneficial reflex vasodilatation by immersing opposite extremities in water at 113° F. may be accomplished. Local heat to the trunk by means of blankets, hot water bottles, electric pads, or heated cradles, is to be encouraged, which also accomplishes vasodilatation. Using the desired results of the typhoid vaccine treatment as a criterion for the proper treatment of thromboangiitis obliterans, I have used the fever cabinet. A patient covered with blankets and electro-magnetic cable with affected extremities exposed can expect the same result except be a little more uncomfortable because of weight on his trunk.

ADVANCE IN THE PREVENTION AND TREATMENT OF POLIOMYELITIS

James L. Wilson, M.D., New York, N. Y.

In THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, 44;1;70
January, 1945

I have chosen to twist the title assigned to me to allow me to confine my discussion of this most interesting and complex disease to a consideration of the therapy of poliomyelitis in the light of the advances in our theoretical knowledge of the disease in the last few years. No research on my part justifies my assuming to address you on this subject, and I can only claim a great and constant interest as a close clinical observer of the disease.

I will start with a summary which may seem most pessimistic and depressing and quite lacking in matter for headlines. Although a great deal that is new has recently been learned which sooner or later will inevitably lead to our ability to control this dreaded disease, it seems to me that at present what we know makes us have less confidence in ourselves and feel less sure of being able to do anything to control the spread of the disease or influence its course than we felt five or ten years ago.

Recently in the various attempts to rationalize the so-called Kenny treatment, belief has been expressed that there is no true paralysis in poliomyelitis but that the resulting weakness was as I would express it a "pseudo-paralysis," due to some mental inhibitions or "alienation" derived from opposing tender muscles. I should like to emphasize the fact that the only pathological change that we know of that is permanent and that does not disappear after recovery from the acute stage of the disease is a loss of those anterior horn cells and we should tie to this and not be misled by physiological sophistries.

There is now much evidence to convince us that the primary pathology is in the motor cells of the anterior horns and that in all the other changes are secondary. Some very beautiful experimental work in monkeys has been carried out which I cannot take time to review in detail but which demonstrated that the virus first damaged the anterior horn cells and that the interstitial changes were secondary and did not occur in spite of inoculation with potent virus in sections of the brain or the cord where the large motor cells had been destroyed previously. All this makes us feel quite surely that these many attempts to increase the blood supply to the great motor cells were based upon a misconception of the pathogenesis and were quite futile.

We come to a discussion of the Kenny phenomenon which is the latest attempt at therapy and of them all the most popularized by the lay press. It is indeed a phenomenon, and is of great interest in illustrating how we as a nation think and act as well as in its relation to this important disease. First, it demonstrates a commendable open-mindedness that physicians would seriously consider the claims of a nurse completely untrained in medicine or in basic science and from the time she first came to our country most contentious, intolerant of difference of opinion, and filled with a belligerent attitude towards the medical profession. Second, it illustrates what to me at least seems a very unfortunate lack of critical judgment in many physicians, a lack of knowledge of how to evaluate a therapeutic experiment, a lack of knowledge of the natural course of poliomyelitis and a reprehensible tendency, of which, however, physicians are not fully responsible, toward allowing premature publicity. It is hard to resist the fundamental American tendency to ride on the "band wagon," in medicine as in other fields.

I think that epidemics of these last two years have made it very clear that again our people have suffered great disappointment in a treatment at first highly praised. We should look back with criticism of ourselves as physicians for not having demanded that any experimental

therapeutic attempt be properly recorded and quantitated and that proper control cases be chosen for comparison, and also with some humility that the challenge of this nurse has been necessary to stimulate long-needed research in muscle function and a fresh evaluation of our own intrenched orthopedic habits by more critical clinical studies.

TRAUMATIC NEUROCIRCULATORY DISORDERS OF THE EXTREMITIES

J. Dewey Bisgard, M.D., Omaha, Nebraska
In THE AMERICAN JOURNAL OF SURGERY, 27;2;210
February, 1945

In both military and civilian practice there are encountered certain definite clinical entities which from the lack of definitive understanding have been designated post-traumatic neuro-vascular lesions of the extremities.

Sudeck's bone atrophy is seen not infrequently in association with fractures about the wrist joint but may follow relatively trivial and minor injuries.

The treatment of post-traumatic neuro-vascular lesions varies with the individual case. The acute vascular contractures with impending gangrene are emergencies, demanding immediate efforts to relieve vascular spasm by means of novocainization of the regional sympathetic ganglia or periarterial sympathectomy. Heat should not be applied to these extremities.

Before treatment is undertaken in chronic cases a careful neurological and psychiatric study should be made in an effort to exclude compensation neuroses and hysteria. All doubtful cases, and there are many, should be looked upon as true causalgias and treated accordingly until a diagnostic therapeutic trial has proved them otherwise. To dismiss them simply as psychogenic does a great injustice to these sufferers.

Minor causalgias and particulary the bone atrophy of Sudeck following fractures or other injuries may be prevented by the early institution of physical therapy and once developed this form of therapy probably shortens the otherwise long period of recovery.

Because the patients in the more severe cases are likely to become addicted to morphine, every effort should be made to obtain early relief of pain.

ARTIFICIAL FEVER AND CHEMOTHERAPY IN EARLY SYPHILIS

H. Worley Kendell, M.D., Donald L. Rose, M.D., Elsie Miller, B.A. and Walter M. Simpson, M.D., Dayton, Ohio
In ARCHIVES OF PHYSICAL MEDICINE, 26;2;85
February, 1945

The clinical and serologic findings for 37 patients with early syphilis treated by one session of fever-chemotherapy are presented.

Quantitative serologic tests are an important prognostic guide in following the results of therapy.

Intensification of fever-chemotherapy as described increases complications during and after the treatment.

A ten hour session of artificially induced fever at 106° F. (rectal) combined with administration of 120 to 240 mg. of mapharsen and 4 grains of bismuth subsalicylate in oil (150 mg. of elemental bismuth) is not recommended at the present time as a routine for the treatment of early syphilis.

ARTIFICIAL RESPIRATION BY RIB TRACTION

R. Viswanathan, M.D. Lond., MRCP, TDD Lieut.-Colonel IAMC
In THE LANCET, No. 6339;238
February 24, 1945

If the patient is on a bed or on an operating-table lying on his back, the operator stands at the head end and places the palms of the hands on the lower part of the chest, the middle fingers being on the anterior axillary lines. The fingers are hooked round the lower costal margins on both sides. The pull is made in an upward and outward direction, thereby raising the anterior portions of the ribs as well as widening the lower costal arches. After a steady pull for 3 seconds the pull is released and the chest is gently pressed downward and inward, while the extended fingers exercise the same pressure on the abdomen. Doing this about 12-15 times a minute brings about a respiratory exchange of over 7000 c.cm. of air. In addition, the expansion of the chest and outward stretching of the diaphragm, owing to the widening of the lower costal arches, helps the venous return of the blood.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P. Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

PLANS FOR CHICAGO REHABILITATION CENTER

Plans are underway for the development of a Rehabilitation Center project sponsored by the Committee on the Handicapped of the Council of Social Agencies which arranged a committee headed by Dr. Carl Peterson, Secretary of the Council of Industrial Health of the American Medical Association, and with members representing hospitals, medical schools, the Federal Government, the Visiting Nurses Association, the committees on Industrial Health of the Illinois Medical Society and the Chicago Medical Society, and various charitable and health agencies. Rehabilitation Centers are in successful operation in various cities and it is felt that there is need for such a Center in Chicago. The proposed Center will probably include a curative workshop, an adjustment workshop, and a sheltered workshop and will service both acute and chronic conditions. It will service both charity and pay patients referred to it by physicians, corporations and by local, state, and national agencies. This Center will doubtless be established independently without any identification with any particular hospital, thus promoting more free utilization by physicians. It will not duplicate existing services in hospitals because, although there are about 33 general hospitals in Chicago having a physical therapy department only a few have an occupational therapy department and, for the most part, vocational analysis and work adjustment are neglected. It is aimed that sound cooperative relationship be maintained with other community agencies and the medical profession. Care should be taken to keep referring agencies and physicians fully informed of the progress of their clients and patients. The work should be safeguarded by the employment of a consulting medical staff consisting of physicians from the different specialties with a full-time qualified physician in charge. The Center will probably have a general Advisory Committee including representatives of the professions concerned and interested lay and business people. The project should become partially self-supporting in time but funds will be required to inaugurate and to maintain it and the source of such funds has not yet been determined. The project is in the formative stage but with so worthy a project, it is hoped that it will meet with the success it merits.

INDUSTRIAL HEALTH EDUCATION PROJECT

Another project being developed in Chicago is that of a health education program in industry, the original sponsoring agencies being the Council of Social Agencies of Chicago, the Chicago Medical Society, and the Chicago Health Department. Cooperating agencies, it is hoped, will include the Educational Committee of the Illinois State Medical Society, the Municipal Tuberculosis Sanitarium, the Chicago Dental Society, the Chicago Society of Industrial Physicians and Surgeons, the Industrial Hygiene Division of the State Department of Public Health, the Industrial Nurses Section of the Illinois State Nurses Association, the Cook County Public Health Unit, and others. This proposed project is patterned after the Fort Greene Industrial Committee in Brooklyn, N. Y., the Fort Greene area being an industrial section of

Brooklyn comprising one of the districts of the New York City Department of Health. This has been in operation for a little over a year. A section of Chicago or Cook County may be selected or it may be developed as a city-wide activity and the name of the organization will be "The Chicago Industrial Health Committee." The purpose will be to provide industrial workers in participating industries with continuous and authentic health information on vital health problems and to promote the utilization of procedures, (such as Kahn tests, chest x-rays, vision testing, etc.) to be made available through cooperating health agencies as requested and available. It is not known as yet from which source the original financing will be arranged but it is self-supporting through payment by participating firms for the services they receive. Health education pamphlets will be issued, in-plant Labor Management Health Committees will be formed, posters and placards will be furnished, and film showings and short talks will be arranged; the initial impetus to the program in Chicago may well be the advocation of tuberculosis screening of entire plant personnel by means of small, portable x-ray units.

It is understood that treatment for non-occupational injuries and ailments will not be rendered and that cases of syphilis, tuberculosis, heart disease, etc., discovered during plant surveys will be referred to the family physicians.

SIGNS OF THE TIMES

Significant trends in the attitude of the public, the executive and administrative branches of our Government, and of medical minds, are becoming increasingly apparent. This may be a symptom of a social upheaval, concomitant with, or as an aftermath of the war. Only by a cognizance of the activities of the governmental agencies, organized labor groups, and the reaction of the public, can the medical profession develop measures to modify and guide these activities into those avenues which will best serve the public welfare. If communities, cities, and states develop facilities for the rehabilitation of the veteran, foster the development of certain pre-payment medical and surgical plans and hospitalization insurance, if the promulgation of the health of the industrial worker is furthered by broadened industrial health activities — we may be able to retain supervision of the development of many of these projects as local measures where, in general, they belong.

In the February 1945 issue of "Industrial Medicine" appear some interesting abstracts relating to some of these problems. These abstracts that are published herein are so included because of their news interest, with no inference that the Industrial Health Committee necessarily agrees or approves of all of the opinions expressed.*

INDUSTRIAL HEALTH X-RAYS

"A major feature of the Pennsylvania Tuberculosis Society program of the year was stimulation and promotion of active attention to the problem of tuberculosis in industry," according to the annual report of Arthur M. Dewees, Executive Secretary, presented at the fifty-second annual meeting in Harrisburg. "The objective has been the x-ray examination of workers and provision in industrial health services for constant and effective care regarding tuberculosis. Well above 100,000 persons have had chest x-rays in surveys conducted by voluntary tuberculosis organizations in Pennsylvania."—Wilkes-Barre Courier-Herald, January 4, 1945.

INDUSTRIAL HEALTH COMMITTEE

The University of Minnesota Medical School, Minneapolis, has announced its plan to create an industrial health and efficiency committee to assemble and coordinate the activities of the school in industrial medicine and to devise ways and means of making immediately available to industry discoveries and developments in this field. At a recent meeting at which Dr. Harold S. Diehl, dean of medical sciences at Minnesota, announced plans for the Mayo Memorial, consideration was given to the relationship and value of the memorial to the industries of the state, this point having been discussed at a previous meeting of the committee of founders of the memorial. The creation of the industrial health and efficiency committee was believed the best step in developing a coordinated program at the university to ensure a comprehensive and well regulated development of research teaching programs and other matters incidental to industrial health and medicine. It was proposed that the committee consist of the heads of the departments of the school of medicine most immediately concerned with the program.

UNION HEALTH HOME

The new $120,000 UAW-CIO Health Institute in the remodeled Edsel Ford home, 7930 E. Jefferson, was opened to the public January 18. Attending the ceremonies were Dr. Thomas Parran, Surgeon General of the U. S.; R. J. Thomas, UAW president;

*Industrial Medicine, February, 1945.

George F. Addes, UAW secretary-treasurer; Walter P. Reuther, UAW vice president, and other high ranking UAW officials. The Ford home, which was purchased in April, 1944, for $50,000, has been remodeled at a cost of $45,000 and new equipment costing $25,000 has been added. The institute program as outlined by Addes includes examinations for all workers with industrial health problems; group examinations from shops to aid in the discovery and prevention of industrial health hazards and the establishment of health and safety committees; health education for every worker and a personal service offering professional advice to workers with personal problems which affect their work and relationship with other people. Dr. Morris Raskin, who has been closely associated with the union for several years, has been appointed director of the institute, and Leslie Anderson, assistant to Addes, as director of the health and accident department.—Detroit Times, January 18, 1945.

HEALTH PROGRAM REPORT

Twenty-nine doctors, economists, administrators and representatives of organized labor have announced a new plan to insure good medical care for all Americans. CIO Research Director J. Raymond Walsh and Florence C. Thorne, of the AFL Research Department, helped draw it up. The plan proposes a national system of health insurance to which employees, employers and self-employed persons would be required by law to contribute in proportion to earning capacity. Low-income families would be provided for by supplementary taxation. Chief points of difference from the W-M-D Bill; Provision for a decentralized administration, with local units exercising autonomy under national standards; recognition of existing voluntary hospital and health insurance plans; and the determination of policy by groups in which both the public and the medical profession would be represented. The term "medical service" is used to cover hospital care as well as preventive, diagnostic, and treatment services. The report was presented as "a framework for improved national health legislation and for action by non-government bodies," rather than as a bill for congressional action. It was worked out by 13 doctors, staff members of the Rockefeller foundation and the U. S. Public Health Service, eight health insurance economists and eight administrators from government and private agencies, in addition to the labor representatives.—Northern California Union Health Committees' Newsletter, 2:1 January 3, 1945.

TEACHING INDUSTRIAL HEALTH

Those who are keeping posted on current trends will agree, no doubt, that industrial health and the general relations developing between medicine, labor and industry are of first rank importance. The subject needs a great deal of consideration by the medical profession. This is especially true with respect to medical education. Medical schools must prepare undergraduates with the basic elements of this phase of medical practice. Progress has been made in bringing this subject into the medical school curriculum, but not enough. A recent survey by the Council on Industrial Health of the A.M.A. shows that the average number of hours of required lectures on industrial health in the medical schools has increased 92% in the period 1939 to 1943 (from slightly more than five hours in 1939 to 9.6 hours in 1943). One school requires 64 lecture hours; some make no provision for teaching this subject. Only a few schools make provision for clinics, demonstrations and bedside teaching. Less than half report having field trips to industry. Ohio's three medical schools need to give this question more attention than at present. The College of Medicine, Ohio State University, requires 11 lecture hours in industrial medicine — above the average for all schools but meager in comparison to some schools. The University of Cincinnati College of Medicine requires eight lecture hours, and Western Reserve University School of Medicine, three lecture hours, plus three hours of clinics and demonstrations and two field trips. Correction of deficiencies in the time devoted to teaching industrial health is something which should be taken up by most medical schools as soon as feasible.—Ohio State Med. J., January, 1945.

SPECIFIC GROUP PROBLEMS

We will see a great expansion of the fight that the health of the individual in industry is important in the next few years. Industry is developing itself into not only a means of production, but also as a social institution, and a medical department in industry is more cognizant of the industrial hazards than a medical department that has no knowledge of the industry in which the man works. In other words, a group of people working in an industry are developing into a group having specific medical problems that can best be handled by a medical department cooperating with the employer.—From an address by Dr. R. E. S. Young, Medical Director, Curtiss-Wright, Columbus, at All-Ohio Safety Congress.

THE SIDES ARE HIGHER

The people should heed the wide-spread editorial criticism of the Wagner-Murray bill, now before Congress, to drastically increase social security taxes and bring the medical profession under total domination of government. One editor, in commenting on the bill, declares it "would destroy the private practices of medicine in the United States. It would open a road which would lead straight to a monstrously expanded Federal bureaucracy of such power that America would inevitably be transformed into a totalitaran state. . . . Frankly, I am less concerned with the welfare of the physicians than I am with the tremendous stride toward the further regimentation of American life which will be taken if this bill is passed. Legitimate business has already been put in a rut. It is proposed to put the medical profession in a rut. Next, one profession after another will be put in a rut. And the only difference between a rut and a

grave is that the sides of the grave are higher. But in time the rut will be deep enough."—"Item of Interest," in Weekly Bulletin, St. Louis Medical Society, January 12, 1945.

THE SHAPE OF THINGS TO COME

A digest of Albert Deutch's "Dilemma in Veterans' Administration," published in the St. Louis Star-Times, January 10, 1944. Mr. Deutch, a layman, has made an extensive study of the workings of the Veteran Administration and has come to some definite and interesting conclusions. He states that it is the biggest Life Insurance Company in the world and the world's largest Medical Care System with the possible exception of the Soviet Union. The defects, in his mind, may be traceable to faulty and inadequate legislation, administrative flaws, and to a combination of both. The following are the pertinent factors in the present administration of the veteran affairs. We quote: "(1) Dollar-honest but incompetent executives. (2) A colossal bureaucracy — tremendously expanded by the G. I. Bill of Rights and other recent veteran legislation — stricken with creeping paralysis in the face of a monumental task. (3) The tangling of human destiny in an excessive mass of red tape. (4) A traditionally isolationist attitude within the Veterans' Administration that has hampered cooperation with other agencies, fostered an unhealthy separation between veterans and non-veterans, and kept veterans' institutions physically, socially and scientifically removed from community life. (5) A medieval attitude toward medicine which discourages good doctors from going into Veterans' Administration facilities, accepts new curative drugs and devices belatedly and reluctantly, puts a damper on medical research that keeps a medical staff alert and advanced, and checks mutually helpful cooperation with medical groups and facilities outside the veteran field. (6) Undue kowtowing to politicians and veteran pressure organizations in making appointments, thus diluting the quality of personnel and resulting in lower standards of care and treatment. (7) Sloppy methods of pension rating, especially in the case of psychoneurotics, which breeds a disease known to medical men as 'compensationitis,' 'pensionitis,' or 'pension neurosis.' (8) Extravagant waste of badly-needed medical skills by requiring VA doctors to spend much of their time in paper work that should be done by clerical aids, thus freeing physicians for active therapeutic work on veterans. (9) Excessive stress on the money side of veteran help — pension rating, insurance, etc. — to the detriment of medical and other rehabilitative efforts." This is a sample of how socialized medicine probably would be administered. Let us redouble our efforts in the prevention of regimentation and bureaucratic rule in America.—Editorial by EAGY, in Weekly Bulletin of the St. Louis Medical Society, January 26, 1945.

CAUTION NEEDED IN ADMINISTRATION OF THIOURACIL FOR TOXIC GOITER

Physicians must exercise caution in the administration of thiouracil for treatment of toxic goiter until satisfactory methods of preventing or controlling the toxic properties of the drug are developed, Samuel L. Gargill, M.D., and Mark Falcon Lesses, M.D., Boston, advise in *The Journal of the American Medical Association* for April 7. Thiouracil is a valuable drug for the treatment of thyrotoxicosis, but it is also an unpredictably toxic drug which may produce serious and uncontrollable effects, especially on the bone marrow and liver.

"As one reviews the toxic manifestations of thiouracil," the two doctors report, "a noteworthy analogy to the sulfonamides emerges. The sulfonamides possess some antithyroidal and goitrogenic properties but to a lesser extent than thiourea derivatives. In the development of granulocytopenia and agranulocytosis dermatitis, drug fever, jaundice and probably anemia, there is much parallelism. Both are sensitizing drugs, and this is the likely explanation of their similar toxic effects, since they are quite unrelated in chemical structure.

"Thiouracil is a potent agent in the treatment of thyrotoxicosis, but it has dangerous toxic effects which so far have proved unavoidable and unpredictable, thus seriously limiting the use of the drug. . . ."

The toxic effect of thiouracil on the bone marrow is characterized by the disappearance of mature granulocytes. "As evidence of this destruction, one may note the large numbers of disintegrating forms seen in the bone marrow smears. It is, of course, also possible that similar destruction of granulocytes may have occurred in the peripheral blood, adding to the rapidity of onset of the agranulocytosis. . . ."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

COOK COUNTY

Lieut. Col. Manuel E. Lichtenstein, formerly Chicago, was recently awarded the Bronze Star. The citation indicated that "as chief of surgical service he efficiently organized the service and conspicuously directed its functions with outstanding professional skill." He also "demonstrated unusual ability as a teacher and was responsible for the superior training results attained." Dr. Lichtenstein graduated from Rush Medical College, Chicago, in 1925 and entered the service Oct. 15, 1942. He is now serving with the Michael Reese Hospital unit with the 5th Army in Italy.

The Bronze Star was recently awarded to Capt. Ernest D. Geever, formerly of Chicago. The citation read "for distinguishing himself by meritorious service in connection with military operations against an enemy of the United States from Dec. 6, 1944 to Jan. 20, 1945 in Germany and Belgium. As battalion surgeon, Lieutenant Geever performed his duties in a superior manner. Without hesitation and without an assistant, under the most adverse conditions of enemy action, weather and fatigue, he worked to provide the best medical care of the wounded. The professional skill, humanity and tireless devotion to duty displayed by this officer are in keeping with the finest traditions of the armed forces of the United States." Since the award was made, Dr. Greever has been promoted to captain. He graduated from the University of Illinois College of Medicine, Chicago, in 1943 and entered the service in January 1944.

Word has recently been received from the United States military mission in Moscow through the adjutant general's office that Capt. Frederick Marks, formerly of Chicago, has been released from a German prison camp by the Russian army. He was captured at the Anzio beachhead May 26, 1944. Dr. Marks graduated from Northwestern University Medical School, Chicago, in 1941 and entered the service in April 1943.

Major Joseph M. Greene, Chicago surgeon, was recently awarded the Purple Heart. Major Greene, a member of the medical staff of Northwestern University, who now is somewhere in Germany, is attached to the 105th Evacuation Hospital which was bombed by enemy aircraft last New Year's Eve.

The Bronze medal for bravery and efficiency was recently awarded to Capt. F. C. Winskunas, formerly of Chicago. Dr. Wiskunas graduated from Loyola University School of Medicine, Chicago, in 1932, and entered the service Oct. 21, 1942.

Jerome J. Burke has recently been promoted from Lieutenant (SG) to Lieut. Commander and is now stationed at Seattle, Washington.

Lieut. Leo B. Lifchultz, Medical Detachment 32nd Infantry, has just returned from Saipan on a medical furlough.

Lt. Col. W. J. Vynalek, Comm. Surgeon of the 108th General Hospital in Paris, France, is a patient in Vaughan General Hospital.

Captain Howard McNally, Flight Surgeon assigned to England, made the trip from England to Chicago in 21 hours.

Colonel Durand Smith, Commanding Officer of the 108th Medical Battalion, gave the G.I. "Little Mothers' Club" permission to adopt one-year-old Little Annie. Little Annie has four foster "mothers" who, before the war, were a barber, a butcher, a restaurant manager and a supply man for a pinball machine manufacturer, who cared for her wants between shell bursts.

Sidney James McLeod of Chicago has been recently promoted from Major to Lt. Colonel in the Army Medical Corps.

Lt. Colonel John H. Gilmore, formerly of Chicago is Chief of the x-ray services at William Beaumont General Hospital, El Paso, Tex. He was radiologist to Illinois Masonic Hospital and the Illinois Eye, Ear, Nose & Throat Infirmary before entering the army.

Colonel Carl Steinhoff, USA, of Chicago was a recent visitor at a meeting of the Chicago Medical Society.

Lt. Col. Edwin M. Miller, Chief of surgical service General Hospital 13 in New Guinea, is a patient in Vaughan General Hospital.

Major Stanley E. Lawton has been made Chief of the surgical service of General Hospital 13, replacing Lt. Col. Miller.

Major Francis H. Strauss of General Hospital 13 in New Guinea, has returned to this country and is in Chicago.

Major George W. Stuppy has been detached from General Hospital 13 and is now serving as Chief of the medical service of the 80th General Hospital.

Major Richard Gilchrist has been made Chief of the surgical service of a Station Hospital in New Guinea.

Major H. Ivan Sippy has been appointed Chief of the Medical service of a Station Hospital in New Guinea.

Captain Stanton A. Friedberg and Captain John E. Tysell have been detached from General Hospital 13 and are serving in the Philippines.

Captain Cecil C. Draa has just returned to the Pacific after a leave.

Cmdr. Fred Shapiro, U.S.N.R., of 4507 N. Beacon st., was awarded the Legion of Merit at the U. S. Naval Hospital in Seattle, where he now is staff surgeon, for serving as marine regimental surgeon during the Tarawa, Gilbert Islands, Saipan and Tinian operations.

A graduate of the University of Illinois medical school, he was on the faculty of Rush Medical College for 10 years.

During the Saipan invasion, the citation read, "his skill as a surgeon contributed greatly to the saving of many lives. During this period he personally took care of 262 compound fractures, displaying outstanding skill and untiring effort in the care of the wounded."

Reno Rosi, medical officer of a hospital in Italy has been promoted to major. He has been overseas more than 26 months and during the winter of 1943-44 served with the typhus commission in Naples. Major Rosi graduated from the University of Chicago and Northwestern University. Before entering the service, more than three years ago, he was attending physician at Wesley Memorial Hospital, associate attending physician at Cook County Hospital and an instructor at Northwestern University.

Captain Bronislava Z. Reznick of Chicago recently wrote the Editor of the Journal, "The four journals which I have received recently were much appreciated and I am going to contribute them to our library. Our 239th hospital is located in France. We received excellent rating following the official inspection."

The following army promotions of Illinois physicians has just been announced: From Lt. Colonel to Colonel, Gilbert H. Marquardt; from Major to Lt. Colonel, William Carl Beck, Richard C. Boyer, James C. Conte, Jr. all of Chicago, James J. Callahan of Oak Park and James Parkes Grier of Evanston.

The greatest person in the world is the wounded American fighting man with his unfailing sense of humor, Col. Leo P. A. Sweeney, 45, of 9715 Winston Ave., reports. The colonel, an eye, ear, nose and throat specialist in Chicago before entering the army four years ago, was chief surgeon for the peninsular base section of the army, with headquarters in Naples, Italy, before he returned home Sunday for a period of detached service.

Next in Col. Sweeney's regard are the army nurses. "Those women do a grand job," he said, "and there aren't enough of them." He also paid tribute to his wife, Elaine. "The women at home have a weary time," he declared, "and my wife has done wonderfully, caring for our three children and doing volunteer war work." The Sweeney children are Lee, 17, James, 14, and Lois, 12.

Col. Sweeney has two bronze stars for campaigns at Naples and Anzio. He also wears a ribbon signifying the order of the crown of Italy, which he received for service to Italian civilians and military personnel.

Maj. Charles A. Serbst, 1557 Olive Ave., Chicago, was commander of a surgical unit at Wiltz, Luxemberg, southeast of Bastogne, Belgium, when that town was overrun by the Germans last Dec. 20 in the Ardennes breakthru. He had refused to abandon several American soldiers on whom he had just operated and by that decision

probably saved his life. Those who tried to get out were caught in enemy cross fire and most were killed.

Serbst was taken prisoner. His story from then on, until he and three other American officers escaped March 27 from the Hammelburg oflag (prisoner of war camp for officers) near Wuerzburg, is a harrowing tale of forced marches and suffering from hunger, cold and of cramped, filthy quarters.

Troops of the Chinese 1st army, with which this mobile American unit is attached, call him "Mr. Mercy Man." He has worked hard for many months. His record is like many others in American hospital teams hidden in the mountains and rivers of Burma.

"Mr. Mercy Man" is Maj. Francis J. Sazama, 3801 S. 59th Ave., Cicero, Ill. Commanding officer of the 58th mobile surgical hospital, Sazama flew into Myitkyina in support of American and Chinese troops early in June, 1944, when allied troops were ringing that Jap stronghold.

Since then Sazama has been walking thru jungle trails that never seem to end. He led his unit along the advance flanks of the American trained and equipped Chinese army from Myitkyina to Lashio and toward the Salween river.

It's the work of Sazama and those under him that earned him the name of "Mr. Mercy Man." He told how more than 35 major operations were performed daily by his team of four doctors; how they would dig steps over sheer cliffs into the mountainsides so horses and mules could make the grade, and how men carried their full field kit on their backs besides medical supplies and surgical instruments.

Skilled surgery has resulted in a 50 per cent mortality reduction from abdominal wounds in World War II. as compared with World War I., Maj. George B. Sanders, assistant chief of medical service at the Vaughan General hospital, told a clinic at the hospital.

Blood plasma and the new "miracle" drugs, penicillin and sulfa, were given secondary rating as "useful adjuncts" by Maj. Sanders.

Mortality in wounds of the colon, once 60 per cent, has been reduced to 30 per cent, it was brought out.

Members of the Chicago Surgical society, who hold meetings in 10 different hospitals yearly, participated in the clinic.

In former wars men survived, only to wish they had died on the battlefield. They were the mutilated men, who lived out their hopeless lives in hospitals, institutions — any place where they could avoid the stares of their fellow men.

Now the shattered faces and bodies of such soldiers are being rebuilt and they are going back to their families, normal men. A Chicago surgeon, whose skillful hands formerly performed delicate and expensive operations at many Chicago hospitals, is now working 8 to 12 hours a day, six days a week, at Northington General hospital here, repairing the faces and bodies of boys who were maimed by enemy gunfire.

This surgeon is Maj. John Francis Pick, chief of plastic surgery at Northington, whose home is at 1420 Lake Shore Dr. Since he entered the army Feb. 17, 1943, he has performed more than 2,000 operations. He has been stationed since last September at Northington, one of eight army general hospitals set aside for plastic surgery.

Under the strain of unceasing work in the operating room, Maj. Pick's dark hair has turned gray, but his tall, slender figure is as erect and lithe as in the days when he was a well known polo player in Chicago. He calls his patients by their first names, and they talk to him as they would to a father.

Maj. Pick denies he and his staff work miracles, but his patients, who pose for pictures before and after surgical treatment, think differently. They are living evidence of what can be done by plastic surgery, and they quickly drive away the despair of disfigured men newly arrived from the battle fronts.

CHAMPAIGN COUNTY

Major J. G. Gillespie of Urbana has been transferred from Yale University to the Surgeon General's Office in Washington, D. C.

DE WITT COUNTY

A letter from Lt. Col. H. L. Meltzer in Honolulu informs us he is still hard at work. He is now in charge of preventative medicine for a large command. He and his setup consisting of medical men, sanitary engineers, bacteriologist and industrial hygiene workers are kept pretty busy on communicable disease control, sanitary engineering, control of disease bearing insects and the like. He evidently has considerable territory to cover for he stated that he had traveled 2200 miles by plane one day in his work. With this experience he might make us a good man for city physician when he returns to Clinton. Evidently he still enjoys horseback riding for he sent along a snap of himself and an old plug which we presume he borrowed from some milk wagon delivery.

GRUNDY COUNTY

Hyman S. Gordon of Coal City was recently promoted from Major to Lt. Colonel in the U. S. Army, Medical Corps.

KNOX COUNTY

Aloys George Ansprenger, M.D., a very capable radiologist practicing in Galesburg, and a member of the society has recently been commissioned a Lt. Commander in the Naval Reserve and will report at Great Lakes on May 5. He is the first German-born American citizen to be commissioned by the Navy, as they waived their 10 year citizenship requirement in his case.

LA SALLE COUNTY

Dr. Clifford L. Carter, 38, Ottawa physician and surgeon, who left here Oct. 1, 1942, to enter the U. S. army medical corps, has been promoted from captain to major in eastern France.

Maj. Carter has been overseas for the past year, having served in Oran, Africa, Madaloni, Italy, near Naples and then in France.

He enlisted in July, 1942, when the University of Illinois evacuation hospital unit was being organized. Before going overseas Maj. Carter was stationed at Camp Breckenridge, Ky., in Tennesee, at Elkins, W. Va., and Ft. Devins, Md.

MADISON COUNTY

Dr. W. W. Billings of Alton, filed a formal request with the county board of supervisors for a leave of absence from the duties of coroner of Madison county and suggests the appointment of Fred Pieper of Madison as acting coroner.

Dr. Billings has been commissioned as a lieutenant commander in the navy and ordered to report at the Great Lakes Naval Training Station on April 23rd. He served three months in the army in World War I, going in shortly before the signing of the armistice. He has a son, Corp. Edgar Billings, who is in the Air Corps and is serving as a radio operator on a B-25 bomber in the Pacific.

Dr. Billings was elected last November to his third term as coroner.

PEORIA COUNTY

The Navy Cross was recently presented to Lieut. (jg) Robert Thomas Browne, formerly of Peoria, Ill., "for extraordinary heroism while attached to the U. S. S. *Johnston* in action against enemy Japanese forces off the Island of Samar during the second battle of the Philippines on Oct. 25, 1944. Acting with cool initiative when the abandon ship order was given, Lieutenant, Junior Grade, Browne remained on board the *Johnston* supplying injured men with life jackets, assisting to evacuate them from the stricken vessel and ministering to the wounded in the face of terrific salvos from hostile gun batteries. A calm and courageous leader, Lieutenant, Junior Grade, Browne served as an inspiring example of fortitude and loyalty throughout the bitter engagement with powerful units of the Japanese fleet. By his gallant spirit of self sacrifice he rendered valiant service to his shipmates at extreme risk to his own life and upheld the highest traditions of the United States Naval Service." Dr. Browne graduated from the University of Illinois College of Medicine in 1942 and entered the service July 10, 1943.

The past month has seen the return of several Peoria doctors to the U. S. A. from battle fields abroad. They are recuperating from various ailments and are enjoying or have the pleasure of being home for awhile at least.

Dick Martin has returned from the Loyola Unit which was located near Paris. That unit arrived in France soon after the breakthrough and has been active since. Dick didn't stay in Peoria very long after his return but rumor says he traveled South for recuperation. He is now at the Mayo General Hospital at Galesburg.

Wally King who was with the 3rd Surg. Gr. in France and Belgium was transferred from Paris to England as a patient and finally arrived in this country in January. He enjoyed a 15 day leave in Peoria and from here he went to the Schick General Hospital at Clinton, Iowa to carry out his treatments. He expects some change in his assignment after his release from the hospital.

George Borin has been in a rest camp in California and has recently had a leave in Peoria. George was with an anti-aircraft unit in France and found himself up in the front lines when the unit was used for purposes other than originally planned. We had the pleasure of seeing him during his Peoria stay but he has now returned to California.

"Mac" McCuskey has been transferred from Camp Roberts, Cal., to a camp near Nashville, Tenn.

Howard Miller has left his southern camp and probably has an A.P.O. number by this time.

Jim Sours has left his post at Great Lakes for a period of schooling in California. He did not know how long the training would last but expects a different assignment after it is over which will take him to the far reaches of the Pacific.

Wilbur Bowen has spent considerable time with the 7th Army in France but has recently moved to another unit farther North.

Mac McQuiston has also made another move and when last heard from was stationed at the O'Reilly General Hospital at Springfield, Missouri.

Nevelin has received a Medical discharge from the Army and is now taking a residency in Medicine.

Fred Endres was promoted to the rank of Lt. Col. The promotion was received in the field in France where he has been located since shortly after D-Day. Fred has been in Europe over three years. Congratulations on your promotion, Fred.

Elliott Burt and Frank Green were in the Philippines, arriving there very soon after the invasion of Lingayen Gulf.

VERMILION COUNTY

Danville's highest-ranking medical officer, Col. Holland Williamson, has assumed command of the Army Convalescent Hospital at Camp Edwards, Mass.

Col. Williamson, a veteran of 30 months in the Pacific theater, was commanding officer of the U. S. Army General Hospital in New Guinea. He returned to this country the first of the year.

A practicing physician for 10 years prior to entering the Army in 1941, Col. Williamson is married and has two children.

GENERAL

ADAMS COUNTY

Adams is the second county in Illinois to appoint a County Board of Health. At the last general election held November, 1944, Adams and DuPage counties voted to tax themselves for the support of a county health department, under the Searcy-Clabaugh Law.

CARROLL COUNTY

The Frances Shimer College, Mount Carroll, has received a bequest from the late Dr. Blanche M. Haines, Three Rivers, Mich., of $20,000 to set up the George R. Moore Memorial Fund to be used to improve and promote the teaching of sciences. Dr. Haines graduated at the Woman's Medical College, Chicago, in 1886 and the fund honors her father, who died in 1910.

COOK COUNTY

Andrew C. Ivy addressed the Iowa and Illinois Central District Medical Association at Davenport, Iowa on May 24th. His subject was "Some Contributions of Medicine to Survival on a Raft at Sea."

An oil painting of Dr. Ludvig Hektoen, 82, internationally noted Chicago pathologist, was presented to the Institute of Medicine of Chicago, 82 E. Randolph St. The painting by Carl Tolpo, a Chicago artist, is the gift of the Institute's fellows. Dr. Hektoen, who helped found the organization, is now honorary chairman of its board of governors.

Dr. Warren H. Cole, professor and head of the department of surgery, University of Illinois College of Medicine, has been appointed to serve also as associate dean of the college of medicine. Dr. Cole, who has been with the University of Illinois since 1936, will in his new capacity assist Dr. Raymond B. Allen as dean of the college of medicine.

Dr. Josiah Moore, 6937 Bennett Ave., president of the Chicago Medical Society, will receive an honorary doctor of laws degree from Montana State University on June 4. Dr. Moore, treasurer of the American Medical Association, will deliver the commencement address and will be awarded the degree for a "distinguished record in pathology."

Karl Paul Link, Ph.D., professor of biochemistry, Wisconsin Agricultural Experiment Station, Madison, will deliver the second WilliamHamlin Wilder Memorial Lecture of the Institute of Medicine of Chicago at the Palmer House, May 25. His subject will be "The Anticoagulant Dicumarol."

Mount Sinai Hospital has established a blood bank under the direction of its pathologist and director of laboratories, Dr. Israel Davidsohn. The bank was established primarily to facilitate the blood transfusion service to patients at Mount Sinai Hospital. As the bank makes progress, it is hoped that blood may be made available in modest amounts to patients outside the hospital.

Dr. George W. Wakerlin, professor and head of the department of physiology, University of Illinois College of Medicine, has been appointed to serve also as assistant dean in charge of teaching and research at the Rush-Presbyterian Hospital, division of the University of Illinois College of Medicine. Dr. Wakerkin will work with the administration of the hospital, the Rush faculty, and the college of medicine in developing a comprehensive program of undergraduate and graduate medical education and research at Presbyterian Hospital and the Central Free Dispensary. A number of appointments to research positions in the medical sciences are to be made as part of this program.

A grant of $175,000 to the University of Chicago for research in pediatrics from the estate of the late Dr. Walter H. O. Hoffmann was announced on March 28. The gift brings to $832,722 the amount for support of teaching and research into the care and nurture of children since Dec. 15, 1944, newspapers report. Other gifts to the university include $25,940 from the general education board for verbal tests in I. Q.,

$20,000 from the Sonia Shankman Foundation for scholarships and research in the university's orthogenic school, two of $15,000 for cancer research from the Albert and Mary Lasker Foundation and the Frances and Sidney Brody charitable fund, $15,000 from Mrs. R. S. Maguire for university support, $10,000 from T. Philip Swift for the department of medicine and $10,000 from the E. J. Brach fund for general research.

Among those on the annual postgraduate program of the University of Michigan Medical School are Dr. Georgiana D. Theobald, pathologist of the Illinois Eye and Ear Infirmary, as guest lecturer in ophthalmology; Dr. Elizabeth C. Crosby, professor of anatomy, University of Illinois; and Dr. Ruth C. Wanstrom, professor of pathology, University of Michigan, who will also lecture on ophthalmology.

An inheritance tax appraisement listing net assets of $1,540,827 in the estate of the late Dr. Arthur Dean Bevan was submitted April 10 to County Judge Perry L. Person of Lake County. Presbyterian Hospital, where Dr. Bevan was chief surgeon for many years, will receive $975,247, Rush Medical College $113,884 and Lake Forest Hospital, Lake Forest, Ill., $25,000, it was reported.

A fiftieth anniversary campaign for Chicago Lying-In Hospital of the University of Chicago is being undertaken by its board of directors. Mrs. Kellogg Fairbanks is chairman of the committee in charge of fund raising, with offices at room 718, People's Gas Building, 122 South Michigan Avenue, Chicago 3. Mrs. Josephine Patterson Reeve will handle publicity pertaining to the campaign through this office.

Dr. Louis G. Hoffman, a member of the faculty of Loyola University School of Medicine since 1934, has been appointed acting chairman of the department of ophthalmology. He succeeds the late Dr. Carl. F. Schaub. Dr. Hoffman graduated at Northwestern University Medical School in 1910. Dr. Samuel Salinger, professor of otorhinolaryngology and a member of the faculty since 1917, has been named acting chairman of the department of otorhinolaryngology, succeeding Dr. George T. Jordan, who is now professor emeritus.

DE KALB COUNTY

At a joint meeting of the DeKalb County Medical Society and the DeKalb County Tuberculosis Association held on April 5th with more than two hundred present, Dr. J. S. Rankin of DeKalb was presented the gold pin and certificate in recognition of his 50 years in the practice of medicine. Lawrence J. Hughes, Councilor of Elgin, made the presentation. The speaker of the evening was Dr. A. A. Pleyete of Milwaukee, Wisconsin, who was introduced by Dr. L. L. Collins, Medical Director of the DeKalb County Sanatorium, of Ottawa.

Representatives from every township in the county were present to honor Dr. Rankin.

DE WITT COUNTY

The Clinton physicians are taking part in the annual P. T. A. Summer Round Up for the preschool children May 15th. They are also following their annual custom of putting on an immunization campaign during the months of May, June and July.

HEARD AT THE MEDICAL MEETING THE OTHER DAY. 1st member: Well, Dr., how are you spending your time these days?

2nd member: About as follows: 30% at the hospital and calling on my patients, 40% in my office waiting on patients, 30% reading, sleeping and eating and 20%making out reports, old age pension slips, insurance inquiries and such.

1st member: But that adds up to 120%.

2nd member: Doctor, you're telling me.

We have begun to notice evidences of Victory Gardenitis among some of our members — Symtoms, walking slightly stooped and complaining of backache.

We will miss the pleasant associations usually experienced at the annual state medical meeting this year but that is just another of the war casualties physicians are experiencing.

DU PAGE COUNTY

Effective March 21, 1945, Dr. Sidney Franklin was appointed health officer of the DuPage County Health Department, succeeding Dr. Joseph A. Markley. Dr. Franklin is a Past Assistant Surgeon (R) of the U. S. Public Health service. He received his medical degree from Yale University and the Master of Public Health degree from the DeLamar Institute of Public Health of Columbia University. Dr. Franklin has served as county health officer in both Kentucky and Michigan.

FAYETTE COUNTY

At a recent meeting of the Fayette County Tuberculosis Association, Dr. E. J. Bost, Vandalia, was re-elected President of the Association.

HANCOCK COUNTY

Dr. Charles A. Runyon, Carthage, recently received a wrist watch as a gift of the Art Baker Hollywood program "Never Too Old," which is dedicated to older professional men and women who are continuing their services to the public.

Dr. Runyon, who graduated at the College of Physicians and Surgeons, Keokuk, Iowa, in 1884, has been practicing in Elvaston and Carthage nearly sixty-two years. The program which recognized him was heard over MBS February 16.

LIVINGSTON COUNTY

E. P. Coleman, M.D., Canton, President, Illinois State Medical Society, spoke before the Livingston County Medical Society at a dinner meeting March 1, at the Livingston County Sanatorium, Pontiac, on the subject "Acute Abdominal Pathology." Following this, there was an open discussion led by Dr. Coleman on the trends of medical legislation.

The County Medical Auxiliary were guests. Others present were the District Health Officer, Col. W. A. Morse, retired, Odell, and Miss Maude Ramsay, R.N., Iroquois County Tuberculosis Nurse, Watseka, Illinois.

MARION COUNTY

Robert K. Campbell and J. A. Stocker of Springfield presented the program at the May 17th meeting of Marion County Medical Society held in Centralia.

MERCER COUNTY

Dr. C. M. Murrell of Sherrard was named vice president of the Mercer county medical society at the annual meeting held in Aledo. Dr. Nellie Marsh of Aledo was named president and Dr. V. A. McClanahan of Aledo was reelected secretary-treasurer.

McDONOUGH COUNTY

Dr. J. T. Googe has been appointed health officer of the McDonough-Fulton County Health Department, succeeding the late Dr. C. P. McRaven. A Surgeon (R) in the U. S. Public Health Service, Dr. Googe has had more than 25 years of experience in the public health field. In addition to local health work in Mississippi, Nebraska and Florida, he served as Quarantine Officer at Ellis Island. Dr. Googe assumed his new duties March 28.

SANGAMON COUNTY

Officers were elected at the recent Annual Meeting of the Public Health Nursing and Tuberculosis Association of Sangamon County. Those chosen to serve for the coming year are: Dr. C. F. Deatherage, President; Jay Parr, Vice-President; Dr. George Stericker, Vice-President.

ST. CLAIR COUNTY

In an attempt to stamp out rabies in East St. Louis an ordinance was enacted by the city council to provide that in the future all applicants for dog licenses must produce from the city clerk a certificate showing that the dog has been vaccinated against rabies.

WINNEBAGO COUNTY

Dr. Herman L. Kretschmer, President of the American Medical Association, addressed the Winnebago County Medical Society, Rockford, March 13, on "Problems in Kidney Surgery" and the Aux Plaines Branch of the Chicago Medical Society, March 23, on "Differential Diagnosis in Renal Disease."

An Industrial Health Conference was held in Rockford, Illinois, on May 15th, at the Faust Hotel, sponsored by the Winnebago County Medical Society, the Rockford Industrial Nurses Association, and the Rockford Chamber of Commerce. The speakers and their respective subjects are as follows:

Dr. Edward C. Holmblad, Managing Director, American Association of Industrial Physicians and Surgeons, Chicago, Ill. Subject: "Industry and the Physician."

Mr. H. E. Hewitt, General Superintendent, Visking Corporation, Chicago, Illinois. Subject: "Industrial Health and Business Economics."

Mr. Frank Peregrine, Attorney, Chicago, Illinois. Subject: "Post-War Medico-Legal Problems."

WHITE COUNTY

The White County Medical Society at a meeting in Carmi on February 28, 1945, was addressed by Dr. Max Hirshfelder of Centralia on the subject of "New Developments in Ophthalmology of Value to the General Practitioner."

The following officers were elected for 1945:

Dr. C. J. Rosenberg, President
Dr. J. Z. Stanley, Vice-President
Dr. L. R. Medoff, Secretary-Treasurer

VERMILION COUNTY

James H. Hutton will give the address at the commencement exercises of Lake View Hospital, Danville on May 21st.

WARREN COUNTY

Mrs. Myra Tubbs Ricketts of Kirkwood, widow of Doctor Howard Ricketts, has recently made a substantial gift for the further development of the medical library of the Warren County Medical Society. Now occupying the "Doctor's Room" on the third floor of the Monmouth Hospital, provided through the board of directors, the library has been in operation for a number of months but Mrs. Ricketts' substantial gift, from which the income will be available, has permitted the purchase of new furniture for the room and the further expansion of the list of

periodicals now available for reference use. Delivery is expected by early summer on the newly selected furnishings. The library makes it possible for the local physicians to keep in touch with latest developments as reported in the current literature of medicine, and it is already becoming regarded as one of the finest of its kind in the middle west.

DEATHS

James Alfred Boyer, retired, Carmi; Barnes Medical College, St. Louis, Mo., 1899. Was veteran of World War I. Had practiced medicine in Carmi since 1904. Died, aged 72, March 22nd.

Albert W. Bouseman, Fountain Green; Barnes Medical College, St. Louis, Mo., 1910. Had practiced medicine in Fountain Green since graduation. Died of a heart attack April 15th, aged 64.

Benjamin Harrison Breakstone, Chicago; Rush Medical College, 1899. At time of death, was surgeon for Peoples' Hospital, consulting gynecologist at Douglas Park Hospital, attending surgeon at Montrose, Northern and Burnside Hospitals. Died of a heart attack April 23rd, at the age of 68.

Victor M. Brian, Lawrenceville; George Washington University School of Medicine, D. C., 1917. Was physician for Texaco Oil Company in Lawrenceville. Died suddenly March 27th at the age of 54.

Charles E. Coleman, Belleville; Bennet College of Eclectic Medicine and Surgery, Chicago, 1914. Had practiced medicine for several years in Benld, moved to Texas, and then located in Belleville. Died suddenly of a heart attack April 8th at the age of 73.

John F. Davis, Chicago; University of Illinois College of Physicians and Surgeons, 1910. Was veteran of World War I; surgeon for Illinois Masonic Hospital and for the Rapid Transit Lines and for several industrial plants; was Cubs' club physician for 25 years. Died following a heart attack in April at the age of 69 years.

Frederick Detlefson, Chicago; University of Berlin, Germany, 1890. Died April 5 at the age of 84.

Carl Gottfried Johnson, Galesburg, Long Island College of Medicine, 1892. In 1943 was awarded the Fifty Year Certificate of the Illinois State Medical Society. Died of a heart attack March 20th at the age of 80.

Gordon Clarence McGary, Chicago; Chicago Medical School, 1936. Served 14 months in World War II. Died of a heart attack March 24th at the age of 35.

Ida B. Putnam, Chicago; Hering Medical College and Hospital, 1897. Had lived in Chicago 75 years. Died in her home, April 11th at the age of 80.

Harry Parsons, Chicago; Hahnemann Medical College, 1880. Was one of the first physicians in Ravenswood. Died April 27 at the age of 86.

Robert R. Snively, Chicago; University of Illinois College of Medicine, 1939. On staff of Wesley Memorial Hospital. Died April 19th, aged 32.

Paul E. Sundwall, Waukegan; Chicago Medical School, 1925. Was county physician from 1938 to 1941 and following year was resident physician in the Lake County General Hospital. Died of a heart attack April 27, at the age of 57.

Alan Richard Welch, Lewistown; St. Louis University School of Medicine, 1914. Died March 31 at the age of 54.

Capt. Leroy W. Yolton, resident of Bloomington until he entered the army in 1942; Rush Medical College, 1931. His military service included Chicago, Hawaii, New Guinea and Leyte before going to Luzon where he was killed on February 3rd at the age of 45.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.
Peoria, Ill.

THE SECRETARY

When dignified propriety
Possesses your society,
Behind it is an intermediary,
Who has as his possession
Respect for our profession
And much of fine discression,
Our visionary, honorary,
Secretary.

When friction surreptitiously
Creeps in most inauspiciously,
And things begin to look incendiary:
With greatest erudition
And true to all tradition
He squelches that condition,
Our arbitrary, military,
Secretary.

With manner highly dignified
He does his tasks diversified,
He is the ultra-perfect functionary,
With charming personality,
Quite gracious hospitality,
And minus partiality,
Our customary, voluntary,
Secretary.

THE SECRETARY

Who is this guy with the lordly air
Who tells us when to head in and where
And fills our life full of sad dispair?
The wary, superciliary,
Secretary.

He chucks the President on the shelf
And runs our business to suit himself,
He hounds us always for hard earned pelf,
Pecuniary, mercenary,
Secretary.

He dictates all of our policy,
He spends our funds with a hand that's free,
For you or me not a damn cares he,
The biliary, adversary,
Secretary.

Within my sanctuary
I have a formulary
For an obituary,
To use when we can bury
That piece of statuary,
The usual stationary
Or wild reactionary
Secretary.

WOMEN

The women now trangress our every realm of
work and play,
They work in all the factories and plants,
Play baseball, ride and swim,
Play golf, perform in gym,
And brazenly they wear our shirts and pants.

They take up all our mannerisms, habits,
vices, clothes,
The transformation is beyond my ken,
Sophisticated, mannish,
All female traits now vanish,
In speech and work and play they're like the men.

I long to see a Woman's Senior Golf
Association,
A plan that I consider keen and nifty,
But you will all agree
That this can never be,
No woman will admit she's over fifty.

THE PHILOSOPHY OF A FLAPPER

My life is all frivolity,
And I am full of jollity,
I'm all vivacity and never frown;
My inconsistent vanity
Drives old men to insanity,
I'm fickle and they call me thistle down.

I'm always gay with merriment
And revelry's my element,
Audacious piquant cleverness my line,
Each day a most entrancing one,
Each night a happy dancing one,
The gang assembled constitutes my shrine.

Let's make our life a merry one
With animation, mirth and fun,
Rejoice with joviality and cheer;
With spritely, jauntly liveliness,
With gay vivacious heedlessness,
Let's share the wild excitement always near.

Let's be sophisticated folks,
Not dreary educated jokes,
Impetuous capriciousness our aim,
We're bubbling effervescent ones,
We're troubling turbulescent ones,
Exhilirating cheerfulness we claim.

The world of fun's inviting us,
All pleasure is exciting us,
We live this life but once so it is said.
We'll live it fast and merrily,
We'll live it with hilarity,
Let's get life's thrill; we'll be a long time dead.


I WANT MORE PABLUM!
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EVANSVILLE, INDIANA, U.S.A.

REFLEX HEADACHE

Headaches of reflex origin are a puzzling and troublesome problem. Their origin may be from the eyes, the nasopharynx, the vascular system, the gastrointestinal tract or may be quite obscure.

Symptomatic relief, however, can be successful before the true cause of the difficulty has been determined.

For such helpful therapy, 'Tabloid' 'Empirin' Compound is a time-tested, efficacious agent. Its acetophenetidin and acetylsalicylic acid work synergistically for headache relief. Its caffeine combats depression.

Each product contains acetophenetidin gr. 2½ (0.162 gm.), caffeine gr. ½ (0.032 gm.), acetylsalicylic acid gr. 3½ (0.227 gm.). Also 'Tabloid' 'Empirin' Compound with Codeine Phosphate, gr. ⅛, gr. ¼, and gr. ½.

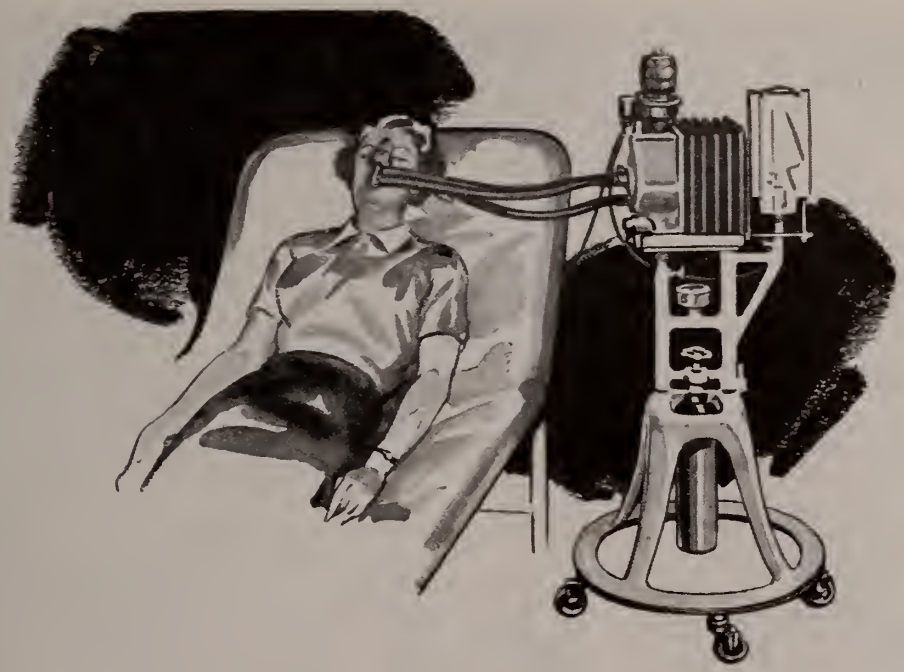
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9-11 East 41st Street, New York 17, New York

'TABLOID' *Empirin* COMPOUND

Bottles of 100 and 500



In Hyperthyreosis, too

The symptom complex of increased appetite, exaggerated psychomotor tension, hyperhidrosis, and loss of weight, in addition to spelling thyrotoxicosis, also reflects the intense metabolic activity characteristic of this condition. Utilization of nutrients may be 50 per cent above normal.

Whether therapy be conservative or surgical, metabolic deficits must be eradicated and some of the consumed body tissue restored. To this end the intake of virtually all essential nutrients must be doubled. If surgery is contemplated, nutritional preparation ranks in importance with iodine preparation for a successful outcome.

Ovaltine can be a valuable component of the high-caloric, high-vitamin diet required in hyperthyreosis. This delicious food drink, made with milk, not only increases the caloric intake appreciably, but also significantly augments the intake of complete proteins and of vitamins and minerals, all of which are required in added amounts.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



Ovaltine

Three daily servings of Ovaltine, each made of ½ oz. Ovaltine and 8 oz. of whole milk,* provide:

PROTEIN	31.2 Gm.	VITAMIN A	2953 I U.
CARBOHYDRATE	62 43 Gm.	VITAMIN D	480 I.U.
FAT	29.34 Gm.	THIAMINE	1.296 mg.
CALCIUM	1.104 Gm	RIBOFLAVIN	1.278 mg.
PHOSPHORUS	.903 Gm.	NIACIN	7.0 mg.
IRON	11.94 mg.	COPPER	.5 mg.

*Based on average reported values for milk.



Cross Bath Pump Room, Bath, England; Early Nineteenth Century

NOW AS THEN...
A THERAPEUTIC TREAT

The cheerful, reassuring and relaxing atmosphere that is such a priceless part of Spa treatment cannot be bottled. But the important feature to which many a Spa owes its success is within reach of all your patients—sparkling, carbonated, saline-laxative water.

The same ingredients frequently found in Spa waters—sodium sulfate, sodium chloride and sodium bicarbonate—are scientifically combined with other salts in pleasant-tasting SAL HEPATICA to create gentle "Liquid Bulk" for effective cleansing of the intestinal tract.

For a gentle, more efficient laxative, or thorough cathartic—direct your patients to dissolve SAL HEPATICA *in a large glass (8 oz.) of water. Laxative Dose: 1 to 2 level tsps. Cathartic Dose: 4 level tsps.*

A Product of Bristol-Myers Company, 19 RR West 50th Street, New York 20, N. Y.

TO HELP FLUSH THE INTESTINAL TRACT

Sal Hepatica  **Liquid Bulk!**

SUPPLIES

when Mother was a girl



PALLOR and lassitude were taken for granted in Mother's day . . . Her parasol deflected the healthful rays of the sun . . . Cosmetics *just weren't used* . . . but all too often *inadequate assimilation of iron* was the underlying reason for those delicate, pale cheeks.

The growing child must assimilate 0.6 Gm. of iron per kilogram of body weight each day in order to escape the debilitating effects of anemia. 'LIRIMIN' CAPSULES are particularly indicated for the oral treatment of certain common types of anemia which respond to the administration of iron, the vitamin B-complex, and liver-yeast concentrate.

Each 'LIRIMIN' CAPSULE contains: Ferrous sulfate, exsiccated, 0.30 Gm.; Liver-Yeast Concentrate, 0.25 Gm., together with the natural factors of Vitamin B-complex derived from the liver-yeast component; Thiamine hydrochloride, 0.25 mg.; Riboflavin, 0.50 mg.

'LIRIMIN' CAPSULES come in 100-capsule boxes. **Sharp & Dohme, Philadelphia 1, Pa.**

'LIRIMIN' capsules

Control Summer Diarrhea

WITHOUT CONSTIPATING EFFECT...

with...



DOSAGE:

At Onset: **Teaspoonful every hour until narmal evacuatian with praper stoal consistency is re-stared.**

Follow with: **Teaspaonful befare meals and at bed-time, reduce as indicated.**

ZymenoL provides a twofold natural approach to the two basic problems of Common Diarrhea;

NORMAL INTESTINAL CONTENT REESTABLISHED
. . . through BREWERS YEAST ENZYMATIC ACTION*

NORMAL INTESTINAL MOTILITY RESTORED
. . . with COMPLETE NATURAL VITAMIN B COMPLEX*

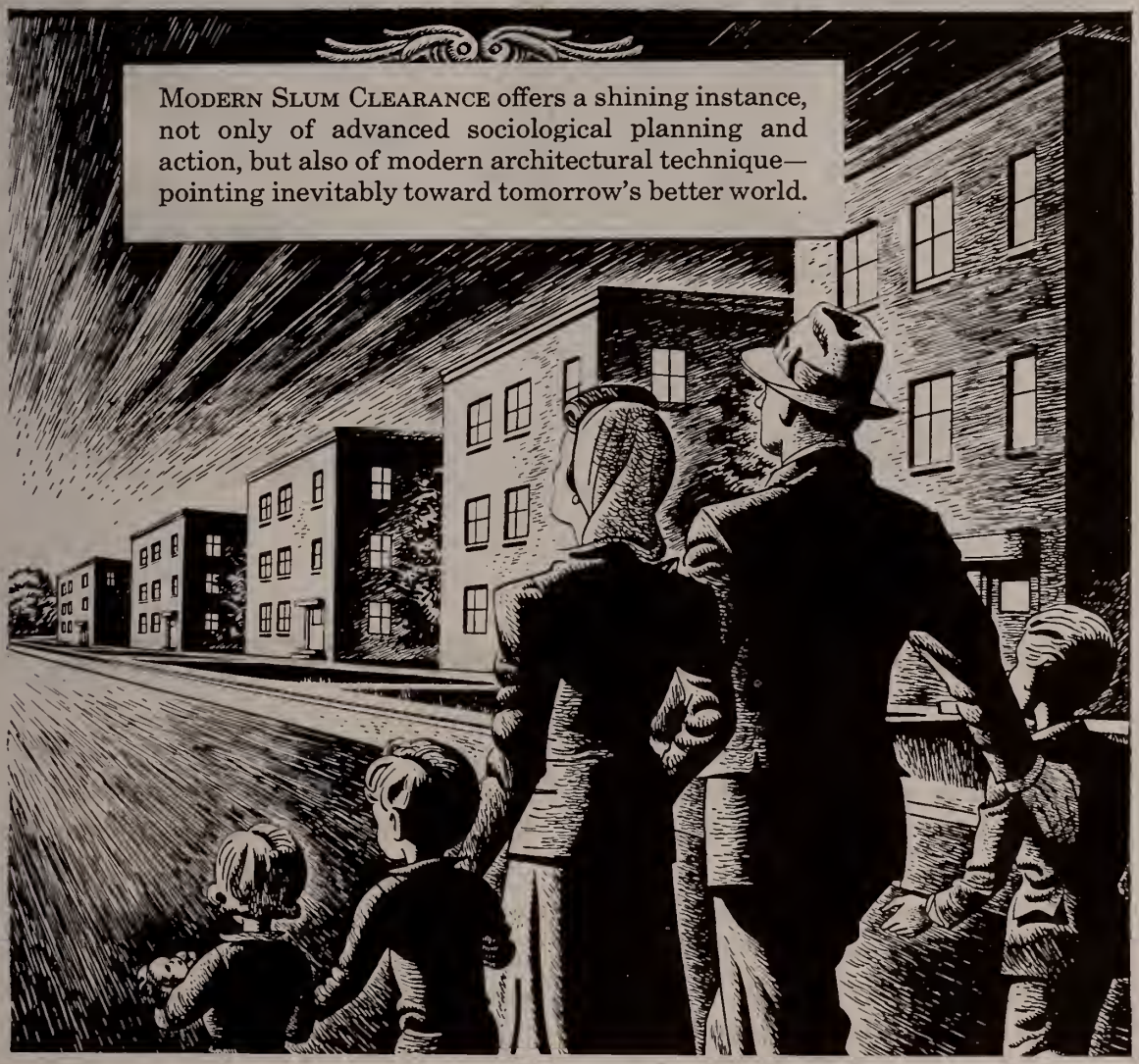
This twofold natural therapy assures normal bowel function without constipating astringents and absorptives, artificial bulkage or catharsis.

Write For FREE Clinical Size

*ZymenoL contains Pure Aqueous Brewers Yeast (no live cells)

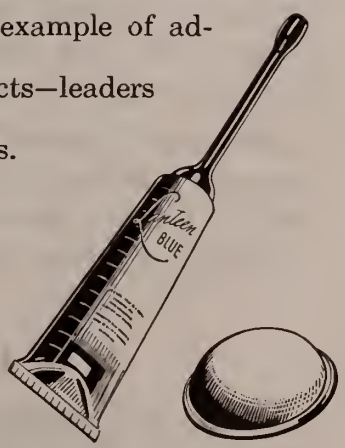
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Lanteen Medical Laboratories, too, present a positive example of advanced thought and modern technique in Lanteen products—leaders in their field—made under most rigid scientific standards.

Since patients are not mechanically minded, simplicity and ease of handling are prime requisites for continued use. Lanteen Flat Spring Diaphragm is extremely simple to place—it is collapsible in one plane only. No inserter required.



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For certainty of results, *control* is the cardinal factor in a wide range of diverse operations.

In the modernly equipped U. D. pharmaceutical laboratories, maintenance of uniform high standards is in the hands of experienced and professional men . . . the Formula Control Committee of doctors, chemists, scientists . . . charged with rigid testing of every product bearing the trusted U. D. label.

From minutely detailed raw material inspection to finished product checking, the U. D. quality control system is characterized by efficiency which evidences long years of devotion to principle in the application of practical knowledge.

As a result, you may be sure that in specifying U. D. pharmaceuticals your orders are competently filled with materials of fundamental excellence. This quality is typical of the entire convenient, economical service provided for you and your patients by your neighborhood Rexall Drug Store.

U. D. Phyllofed Capsules and Enteric Coated Tablets—Effective in the relief of bronchial asthma—providing a convenient oral method for praphylactic as well as for symptomatic treatment.

AVAILABLE AT ALL REXALL DRUG STORES

UNITED DRUG COMPANY

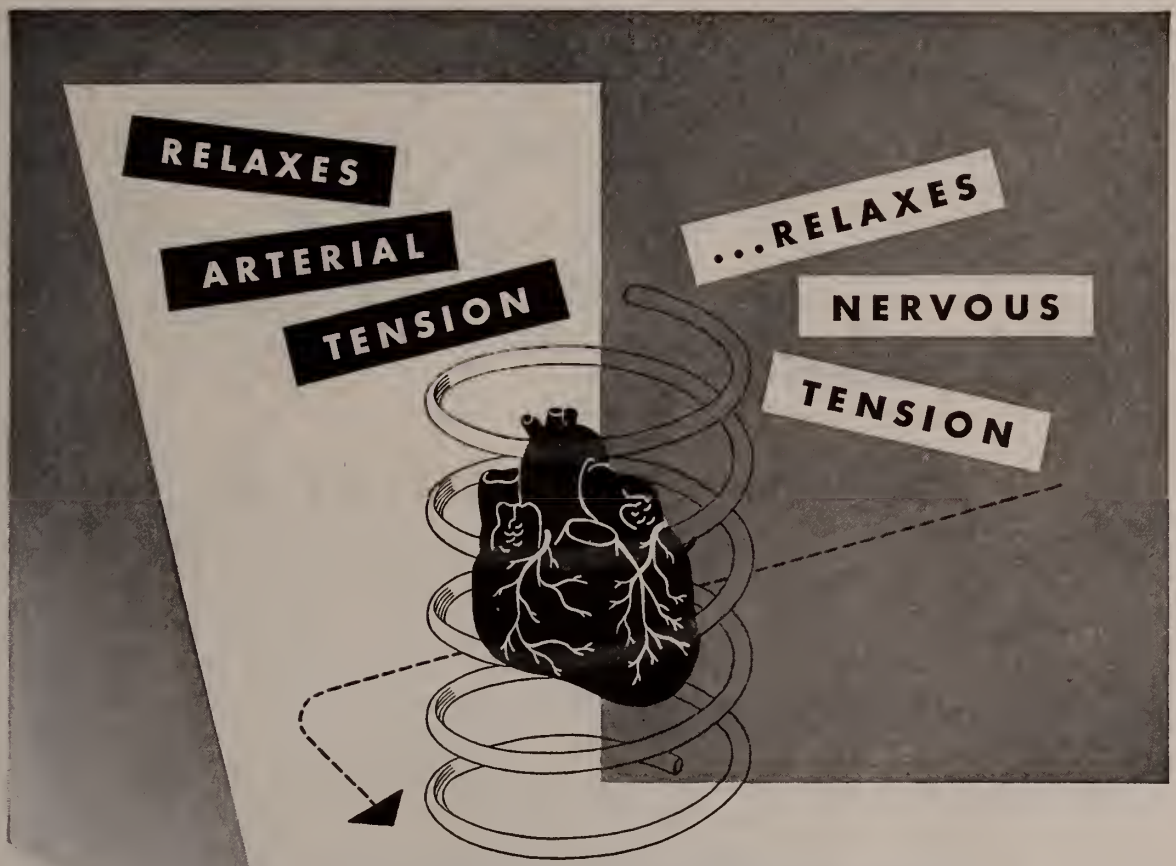
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NITROBAR

IMPORTANT ACCOMPLISHMENTS in the treatment of essential hypertension:

1 gradual lowering of the blood pressure and a subsequent prolonged period of low pressure

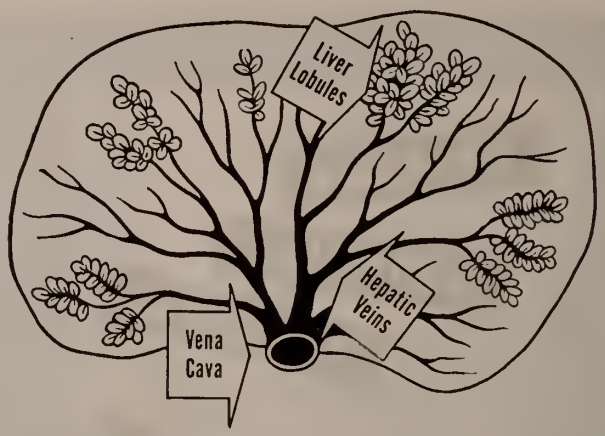
2 relaxation of the patient's general nervous tension

The bismuth subnitrate (5 gr.) in Nitrobar is reduced in the intestine and thus provides a gradual stream of nitrite ions which relax the vessel walls and bring the blood pressure down in a long curve, maintaining this low level for a matter of hours.

The addition of phenobarbital ⅓ gr. together with ext. passiflora ½ gr. and ext. lupulus ½ gr. induces the "mental relaxation" necessary to relief of hypertension. Nitrobar Comp. is supplied in engestic coated red tablets. Caution: Use only as directed.

Bottles of 100, 500 and 1000

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Mitigating

THE IMPACT OF SURGERY ON THE LIVER

In biliary tract surgery, postoperative depression of hepatic function frequently constitutes a problem which demands the surgeon's prompt attention. Anesthesia itself imposes a burden on the liver. Surgical manipulation, such as the opening and closing of the abdomen; the cooling off of the exposed viscera; the unavoidable traction on the gastrohepatic ligament, all exert an unfavorable influence on liver function and bile flow.

Decholin (chemically pure dehydrocholic acid) and Decholin sodium, administered before and after biliary tract surgery, are effective means of mitigating and overcoming this untoward effect of surgery. By inducing powerful hydrocholeresis they promote physiologic drainage of the hepatobiliary pathways and thus are a valuable aid toward lessening postoperative discomfort. Decholin is contraindicated only in patients with complete obstruction of the common or the hepatic bile ducts.

SUPPLIED

Decholin in 3¾ grs. tablets. Boxes of 25, 100, 500 and 1000; and Decholin sodium in ampuls (3, 5, 10 cc).

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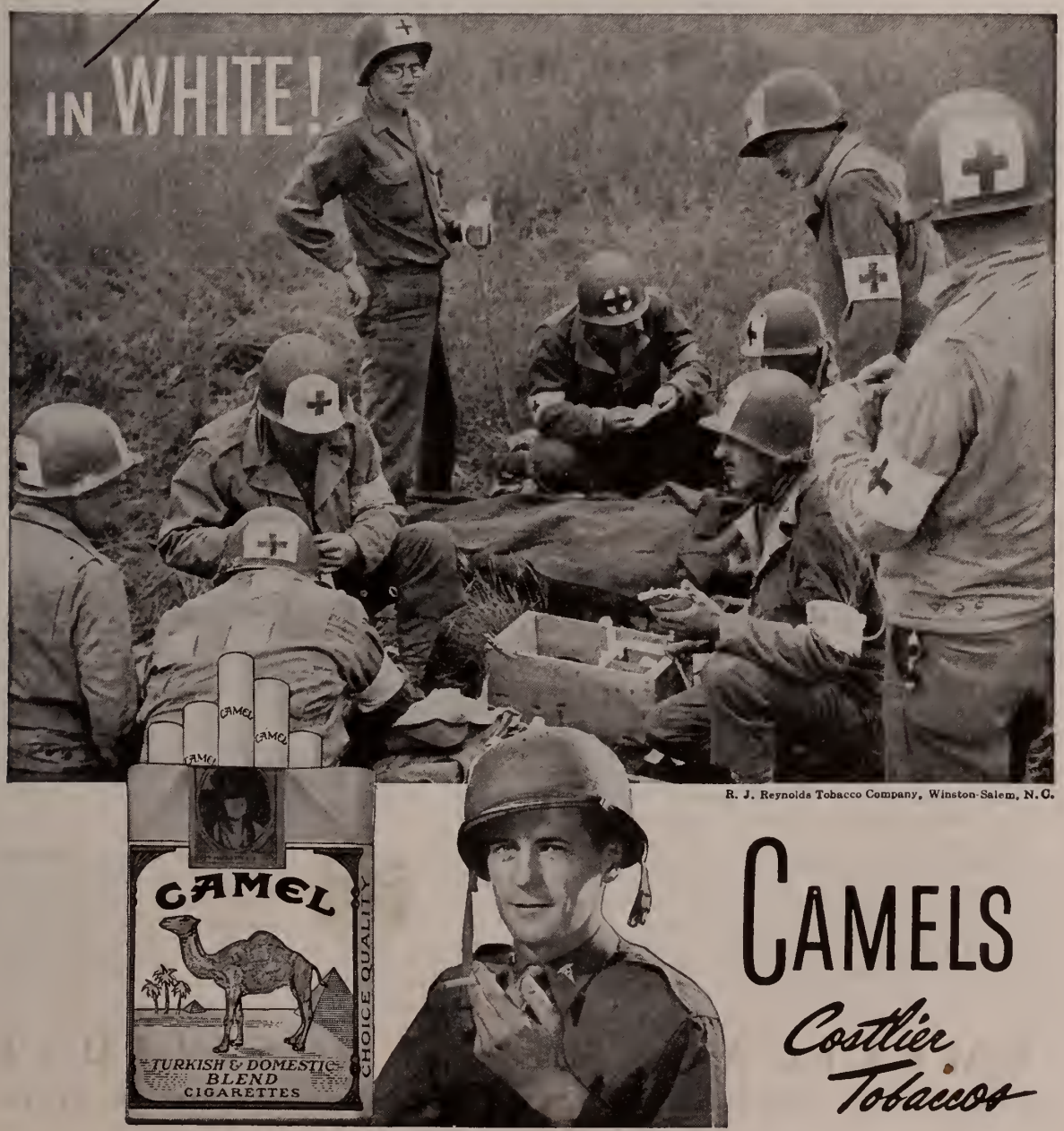
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PACE-MAKER OF BILE ACID THERAPY

Combat Team IN WHITE!

They're armed with tourniquets and plasma instead of guns and grenades. • They're the combat team of medical science—the medical officer and the aid men—and they're fighting men, through and through. • It isn't a showy fighting job—just hard, dangerous work that goes on even when the guns are quiet. So often, rest for the men of medicine is limited to a few moments of relaxation with a friendly cigarette. More than likely it's a Camel cigarette; for Camels, with their mildness and full, round flavor, are such a big favorite with fighting men in *all* the services.



R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

CAMELS
Costlier Tobaccos

Pregnancy, Needed Weight-Gain, and Proteins

One of the tasks imposed upon the gravid organism is to produce new tissue to the extent of almost one-fifth of its own normal body weight.* Unless protein supply in the diet is adequate, quantitatively as well as biologically, the hazard for the maternal organism increases and the development of the fetus may be impaired. The proteins of meat are of the right kind not only to lay down these new tissues, but also to provide for the stepped-up functions during pregnancy, for which proteins are essential.

* "During pregnancy the average normal woman gains approximately 18-22 pounds, which represents the growth of the uterus, breasts and other organs as well as the fetus and placenta. In other words, a pregnant woman in nine months reproduces tissue almost equivalent to one-fifth of her own normal body weight. It must not be forgotten that the chief function of protein is to supply the tissue-building material of the body, that the need for this material is increased during pregnancy and that the protein deficiency in the diet of the nonpregnant woman may become dangerous when maternity intervenes. . . . It is reasonable to assume that protein foods satisfy appetite earlier than the others and make it content with fewer calories. In this respect we have found high protein diets of value for weight restriction during pregnancy." (Arnell, R. E.; Guerriero, W. F.; Goldman, D. W.; Huckeby, E., and Lutz, A. M.: PROTEIN MALNUTRITION IN PREGNANCY, New Orleans M. & S. J. 95:114 [Sept.] 1942).



The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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A New Tubex Preparation

POISON IVY EXTRACT

IN ALMOND OIL

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FOR PROPHYLAXIS AND TREATMENT

Persons Susceptible To Poison Ivy may be hyposensitized preseasonally by the intramuscular injection of poison ivy extract (in almond oil) wyeth.

PROPHYLAXIS: A 1 cc. dose may be sufficient to protect the mildly sensitive patient when exposed to the poison ivy plant. Additional injections are advisable, however, where extreme sensitivity exists.

TREATMENT: The intramuscular injection of 1 cc. of extract may give adequate relief in mild cases. If relief is not obtained, additional 1 cc. doses should be administered at intervals of 24 hours until symptoms have subsided.

PACKAGES		
1 TUBEX	1 cc. size	50A64
5 TUBEX	1 cc. size	50B64

EICHEL DIVISION • WYETH INCORPORATED • PHILADELPHIA 3 • PENNA.

Effective Convenient Economical

THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

Complete literature will be furnished on request.



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Book Reviews

MODERN CLINICAL SYPHILOLOGY; (Third Edition) by John H. Stokes, M.D., Prof. of Dermatology and Syphilology, School of Medicine and Graduate School of Medicine, University of Pennsylvania; Director, Institute for the Control of Syphilis, University of Pennsylvania; Herman Beerman, M.D., Sc.D. (Med.), Asst. Prof. of Dermatology and Syphilology, School of Medicine and Graduate School of Medicine, University of Pennsylvania; and Norman R. Ingraham, Jr., M.D., Asst. Prof. of Dermatology and Syphilology, School of Medicine, University of Pennsylvania. Third Edition, Reset. 1332 pages with 911 illustrations. Philadelphia and London: W. B. Saunders Company, 1944. Price $10.00.

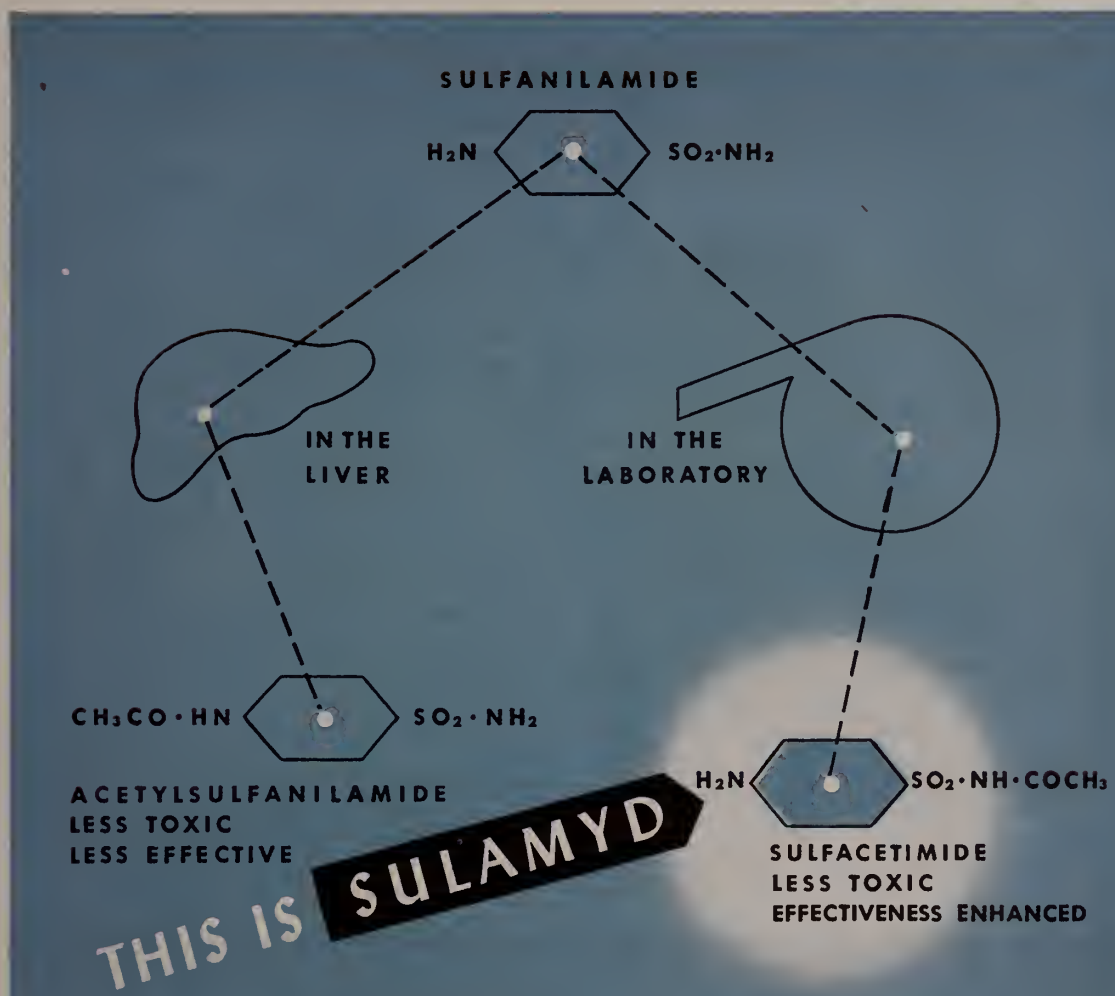
The authors with the assistance of a collaborating staff of eight other members of the Department of Dermatology and Syphilology at the University of Pennsylvania, have brought out this third edition, entirely reset, of a highly popular book, popular over a period of 19 years. It has been the desire of the authors in this edition to give in complete detail in a single volume, a summation of the knowledge concerning the diagnosis and treatment of syphilis.

Since the second edition was published in 1934 there has been so much additional knowledge concerning the subject and especially concerning the modern treatment of syphilis, that it was necessary to completely revise the book. Beginning with the fundamental bacteriology, pathology and immunology of syphilis, the fundamental diagnostic tests, and serological tests of blood and spinal fluid, the fundamental principles of treatment are given much consideration.

Much consideration is given to the public health aspects of syphilis as well as its importance in military medicine. A new chapter has been written on the use of penicillin in the treatment of syphilis. Massive dose arsenotherapy, commonly referred to as the "five day drip" is also discussed.

In a book so replete with fundamental knowledge concerning one of the leading health problems today, it would be difficult to state that one section is of greater importance than the rest. The reviewer, however, is interested in the chapter of some 70 pages devoted to the considerations of syphilis of the cardio-

(*Continued on page* 50)



Acetylization of sulfanilamide in the preparation of SULAMYD (Sulfacetimide-Schering) differs essentially from that occurring within the liver and results not only in a compound of lower toxicity, but one of enhanced therapeutic effectiveness.

SULAMYD is a readily absorbed, easily excreted, rapidly acting bacteriostatic drug for the treatment of urinary tract infections, especially those due to B. coli, the organism which is most frequently responsible.

SULAMYD is available in tablets of 0.5 Gm. (7.7 grains); in bottles of 100 and 1,000; and as a powder in bottles of 5.0 Gm. for the preparation of laboratory standards.

SCHERING

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BOOK REVIEWS (Continued)

vascular system. Realizing that many of these cases are overlooked or perhaps do not consult their physicians at a time when proper management might add to the longevity of the individual so afflicted, we would recommend that physicians everywhere read this important chapter.

More than 900 illustrations add materially to the value of the book and a considerable number of these are from actual photographs depicting the condition under discussion.

We do not hesitate to recommend the book to physicians everywhere, and we predict that those fortunate enough to have it in their medical libraries will feel well repaid for the initial investment.

OPERATIONS OF GENERAL SURGERY: By Thomas G. Orr, M.D., Professor of Surgery, University of Kansas School of Medicine, Kansas City, Kansas. 723 pages with 1396 step-by-step illustrations on 570 figures. Philadelphia and London: W. B. Saunders Company, 1944. Price $10.00.

The book was written both for the beginner in surgery and for the surgeon. It gives in detail the standard operations in the general field of surgery. The author has included interesting chapters on wound healing as this is essential for the success of any operation. Careful consideration is given to the subjects of wound closure, choice of suture material and drains which will be of interest especially to those occasional surgeons who must perform operations as life saving measures when experienced surgeons are not available.

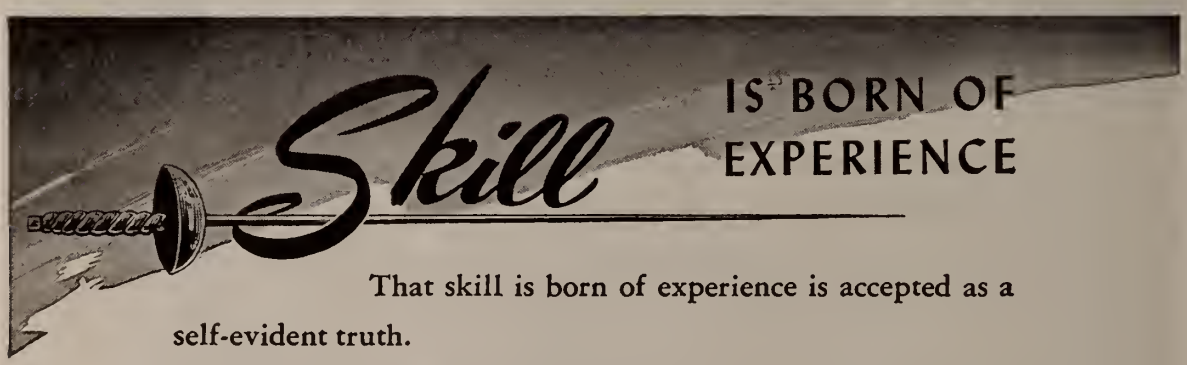
Likewise there is an interesting chapter on the treatment of fresh wounds, giving essential information in much detail. In the consideration of surgical technique for the various operative procedures, the anatomy is described briefly to clarify points in technique.

The unusually fine illustrations add materially to the value of the book and aid the surgeon in reviewing it quite materially. There are step by step illustrations for the many surgical procedures, outlined in the more than seven hundred pages. The last section dealing with surgery of the female reproductive system will be of unusual interest to many who are caring for these frequently seen ailments. The entire section is illustrated profusely to show step by step the preferred technique for each operative procedure.

This book should be very popular, and will no doubt be used frequently by those who purchase it.

PSYCHIATRY FOR NURSES: By Louis J. Karnosh, B.S., Sc.D., M.D., Associate Clinical Professor of Nervous Diseases, School of Medicine, Western Reserve University; Director of Neuropsychiatry, City Hospital, Cleveland; Consulting Neuropsychiatrist, Cleve-

(*Continued on page* 52)



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BOOK REVIEWS (Continued)

land Clinic; and Edith B. Gage, R.N., Formerly Supervisor, Neuropsychiatric Division, City Hospital, Cleveland; in Collaboration with Dorothy Mereness, A.B., M.N., R.N., Instructor of Psychiatric Nursing, Neuropsychiatric Division, City Hospital, Cleveland. Illustrated. Second Edition. The C. V. Mosby Company, St. Louis, Price $2.75.

The road of psychiatric nursing stretches ahead, widening and developing as more and more patients present this ever growing problem to members of the medical and nursing professions. Contemporary knowledge and research in this field of medicine is expanding constantly, the need intensified by the present war neuroses. Nurses must be trained to cooperate and work with the medical profession in the care of the increasing number of mental cases, and the need for psychiatric training for nurses is obvious.

The second edition of this book, prepared for graduate nurses or for those in training, fills a definite place in nursing literature today. A short historical review of psychiatry is given, followed by chapters dealing with the importance of heredity and the part it plays in the development of intellectual and temperamental traits. Personality structure, etc., are given as an introduction to specific types of patients which will present themselves to the psychiatric nurse.

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(*Continued on page* 54)

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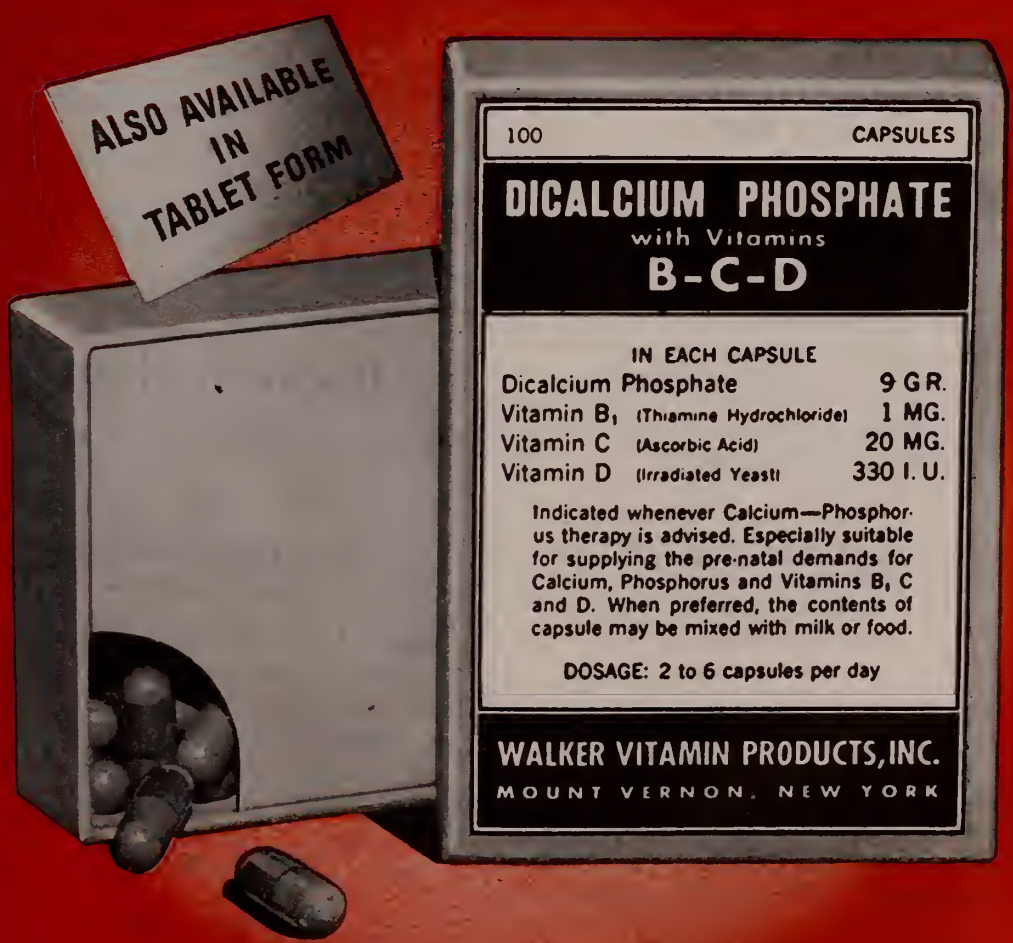
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BOOK REVIEWS (Continued)

knowledge of her patient and his ills. We feel that this textbook can be recommended highly for all in the nursing profession today, and that through its use, a greater helpfulness and efficiency can be developed in any member of the nursing profession.

MALARIA: ITS DIAGNOSIS, TREATMENT AND PROPHYLAXIS: By William N. Bishpham, M.D., Colonel, U. S. Army, Retired. The Williams & Wilkins Company, Baltimore, 1944. Price $3.50.

The author has had much experience and knowledge concerning malaria through his many years in the Army Medical Corps, and having traveled extensively in tropical and semi-tropical countries where malaria and other tropical diseases are prevalent. In addition to his own knowledge and experience he has had access to much other up to date material and has called upon many authorities on this subject to aid in its development.

It is the intention to give the reader sound, modern information on all clinical aspects of malaria. The book appears at the most logical time when so many troops are in service in countries where malaria is the biggest public health problem. Beginning with a history of malaria and its geographic distribution, the etiology, epidemiology, symptomatology, complications, pathology, prevention and treatment are all discussed in much detail.

A careful evaluation of the value of atabrine in the

(*Continued on page* 61)

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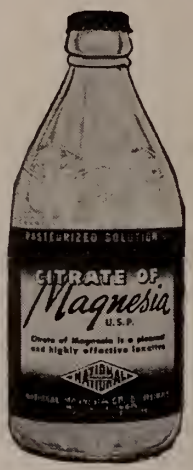
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treatment of malaria is most interesting to the reader. It is shown conclusively that the high rate of toxity following the use of atabrine has been greatly exaggerated. The author believes it can be used safely in larger doses when necessary. It is shown that the relapse rate following the use of quinine and of atabrine is materially in favor of the latter as has been shown by comparative records from numerous investigators.

The special chapter on Prevention and Treatment of Malaria in West Africa gives a clear picture of the progress in combatting the disease in that area where it is so prevalent.

The book should be of interest to all physicians and others interested in the problems connected with malaria and its various manifestations. Having only about 200 pages, it is indeed full of information and is most interesting reading for a distinctly clinical treatise on an important subject.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

BRONCHIAL ASTHMA: By Leon Unger, B.S., M.D., F.A.C.P., Assistant Professor, Department of Medicine, Northwestern University Medical School, Chicago. Introduction by Morris Fishbein, M.D., Editor, Journal of the American Medical Association. Charles C. Thomas, Publisher, 1945. Springfield, Ill. Price $9.00.

CLINICAL ROENTGENOLOGY OF THE DIGESTIVE TRACT: By Maurice Feldman, M.D., Assistant Professor of Gastroenterology, University of Maryland; Assistant in Gastroenterology, Mercy Hospital; Consulting Roentgenologist, Sinai Hospital. Second Edition. The Williams & Wilkins Company, Baltimore, 1945.

PENICILLIN THERAPY: Including Tyrothricin and Other Antibiotic Therapy; By John A. Kolmer, M.S., M.D., Dr. P. H., Sc.D., LL.D., L.H.D., F.A.C.P., Professor of Medicine in the School of Medicine and the School of Dentistry, Temple University; Director of the Research Institute of Cutaneous Medicine; Formerly Professor of Path-

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ology and Bacteriology, Graduate School of Medicine, University of Pennsylvania. D. Appleton-Century Company, Inc., New York and London. Price $5.00.

DOCTORS AT WAR: Edited by Morris Fishbein, M.D., Editor of the Journal of the American Medical Association. Contributors: George B. Darling, M.D., Harold S. Diehl, M.D., Major General David N. W. Grant, Charles M. Griffith, M.D., Major General Paul R. Hawley, Major General Norman T. Kirk, Major General George F. Lull, Vice Admiral Ross T. McIntire, Captain French R. Moore, Thomas Parran, M.D., Brigadier General Fred W. Rankin, G. Canby Robinson, M.D., LL.D., Sc.D., Colonel Leonard G. Rowntree, Colonel Howard A. Rusk, and Brigadier General James Stevens Simmons, M.D., Ph.D., D.P.H., Sc.D. (Hon.). E. P. Dutton & Company, Inc., New York, 1945. Price $5.00.

MILITARY MEDICAL MANUALS: A Manual of Tropical Medicine. Prepared under the auspices of the Division of Medical Sciences of the National Research Council. 727 pages with 284 illustrations. Philadelphia and London: W. B. Saunders Company, 1945. Price $6.00.

PERIPHERAL NERVE INJURIES: By Webb Haymaker, Capt. M.C., A.U.S., Neuropathologist, The Army Institute of Pathology, Washington, D. C., (On leave of absence from the University of California, San Francisco and Berkeley); and Barnes Woodhall,

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Major, M.C., A.U.S., Chief, Neurosurgical Section, Walter Reed General Hospital, Washington, D. C., (On leave of absence from Duke University, Durham, North Carolina). 227 pages with 225 illustrations. Philadelphia and London: W. B. Saunders Company, 1945. Price $4.50.

MEDICAL GYNECOLOGY: By James C. Janney, M.D., F.A.C.S., Assistant Professor of Gynecology, Boston University School of Medicine, Boston, Massachusetts. 389 pages with 97 illustrations. Philadelphia and London: W. B. Saunders Company, 1945. Price $5.00.

A TEST FOR COLOR BLINDNESS: By P. B. Wiltberger, M.D., The College Book Company, Publishers, Columbus 1, Ohio. Price $1.00.

TECHNIQUE OF THE STANDARD KAHN TEST and of Special Kahn Procedures: By Reuben L. Kahn, Chief of Clinical Laboratories, University of Michigan Hospital. Revised and Enlarged Edition. University of Michigan, Ann Arbor, Michigan, October 1944. Price $.25.

UNCLE SAM CONVALESCING: A Glimpse Into His Hospital Record from 1939 to 1940. By H. Ameroy Hartwell, M.D., Bruce Humphries, Inc., Publishers, Boston. Price $2.00.

ANATOMY As a Basis for Medical and Dental Practice: By Donald Mainland, M.B., Ch.B., D.Sc., F.R.S.E., F.R.S.C., Professor of Anatomy, Dalhouise University, Halifax, N.S., Canada. Paul B. Hoeber, Inc., Medical Book Department of Harper & Bros., New York and London. Price $7.50.

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*Welch, Henry, and Hunter, Albert C., Method for Determining the Effect of Chemical Antisepsis on Phagocytosis, Am. Jnl. of Public Health, Vol. 30, No. 2, Feb. 1940.

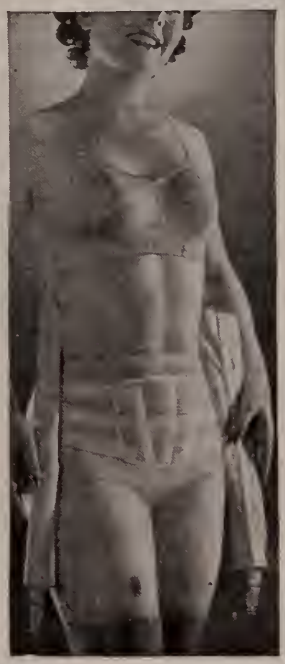
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When you prescribe a Spencer Support you are assured it will meet your specific requirements and the patient's figure needs, *because* it will be individually designed, cut and made for the one patient who is to wear it.

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Abdominal, Back and Breast Supports

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Ferrous Sulfate ..... 3 gr.
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Recommended in secondary anaemia and other conditions where the therapeutic action of Iron and Vitamin B are indicated.

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In many cases dental injury to the hands or fingers results from finger sucking and is to be distinguished from human bites, Francesco Ronchese, M.D., Providence, R. I., points out in *The Journal of the American Medical Association* for April 21. He explains that hitting any part of one's body against somebody's teeth and sustaining an injury should not be called a bite. Also, injuries caused by pressure against the teeth while sucking are not true bites. These wounds are far from rare and unless they are properly determined as dental or tooth injuries their classification as warts, benign or malignant skin tumors, fungous growths or skin cancer may result in unnecessary removal of tissue, surgery or irradiation.

"Surprisingly enough," the author says, "they are often not diagnosed or they are diagnosed as a wart, a keloid, a sarcoid, a mycotic growth or an epithelioma and, accordingly, unnecessary biopsy, surgery or irradiation is done."

$1000 IN PRIZE MONEY IN ESSAY COMPETITION

Modern Hospital magazine has announced a competition for an essay on the subject "A Plan for Improving Hospital Treatment of Psychiatric Patients." Prizes totaling $1000.00 will be awarded on the recommendation of three judges. Complete details may be had from Modern Hospital Publishing Company, 919 N. Michigan Ave., Chicago 11, Illinois.

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it is desirable to use a compound which gives good results with the least discomfort."*

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FOR IRON DEFICIENCY



SUPPLIED as 5% elixir, bottles of 6 fl. oz. and 16 fl. oz.; 2½ grain tablets, bottles of 100; 5 grain tablets, bottles of 100, 500, and 1000.

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FERGON is *improved* ferrous gluconate. Prepared by a special Stearns process and stabilized by an excess of reducing agent, it contains no more than 1/7% ferric iron.

NON-IRRITATING because of its low degree of ionization, Fergon is rarely associated with gastric distress. Hence it may be administered before meals, thereby facilitating maximum absorption.

MORE EFFICIENT utilization of iron is demonstrated in clinical studies comparing ferrous gluconate with other iron salts. It is readily soluble throughout the entire pH range of the gastro-intestinal tract.

INDICATED in the treatment and prevention of anemias due to iron deficiency; especially valuable in patients who do not tolerate other forms of iron.

DOSAGE: Average dose for adults is 3 to 6 tablets (5 gr.) or 4 to 8 teaspoonfuls elixir daily; for children, 1 to 4 tablets (2½ gr.) or 1 to 4 teaspoonfuls elixir daily.

FURTHER FACTS FOR YOUR REFERENCE FILE AND CLINICAL SAMPLES WILL BE GLADLY SENT ON REQUEST

*Reznikoff, P. and Gotbel, W. F. J. Clin. Investigation 16:547, 1937.

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The

ILLINOIS

Medical Journal

VOL. 87 ✳ NO. 6

June, 1945

1945 Annual Meeting Cancelled

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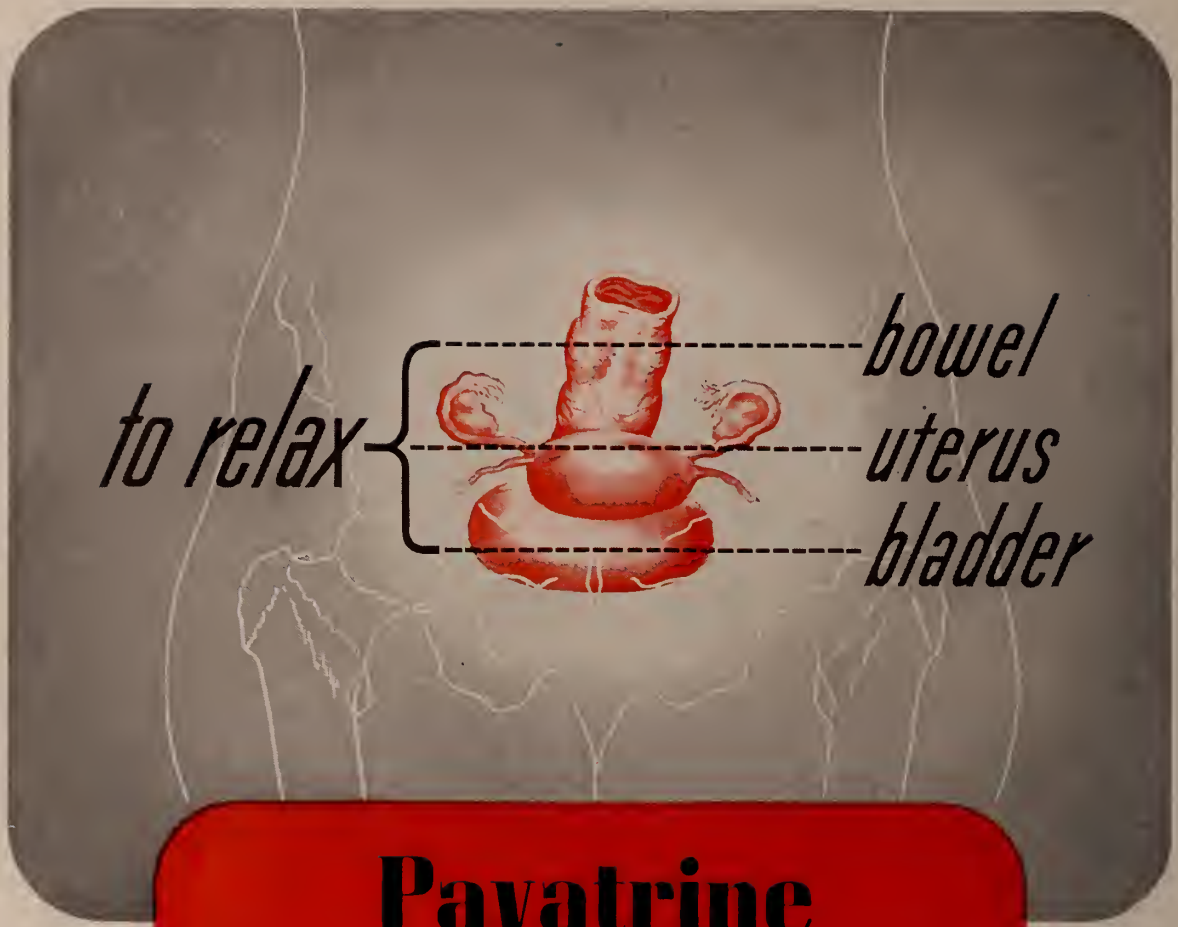
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OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY



Pavatrine with Phenobarbital

This new and improved spasmolytic agent—developed by original Searle research—offers a threefold measure of relief in—

Gastrointestinal spasm (the "irritable bowel")
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Thos. Leeming & Co. Inc.

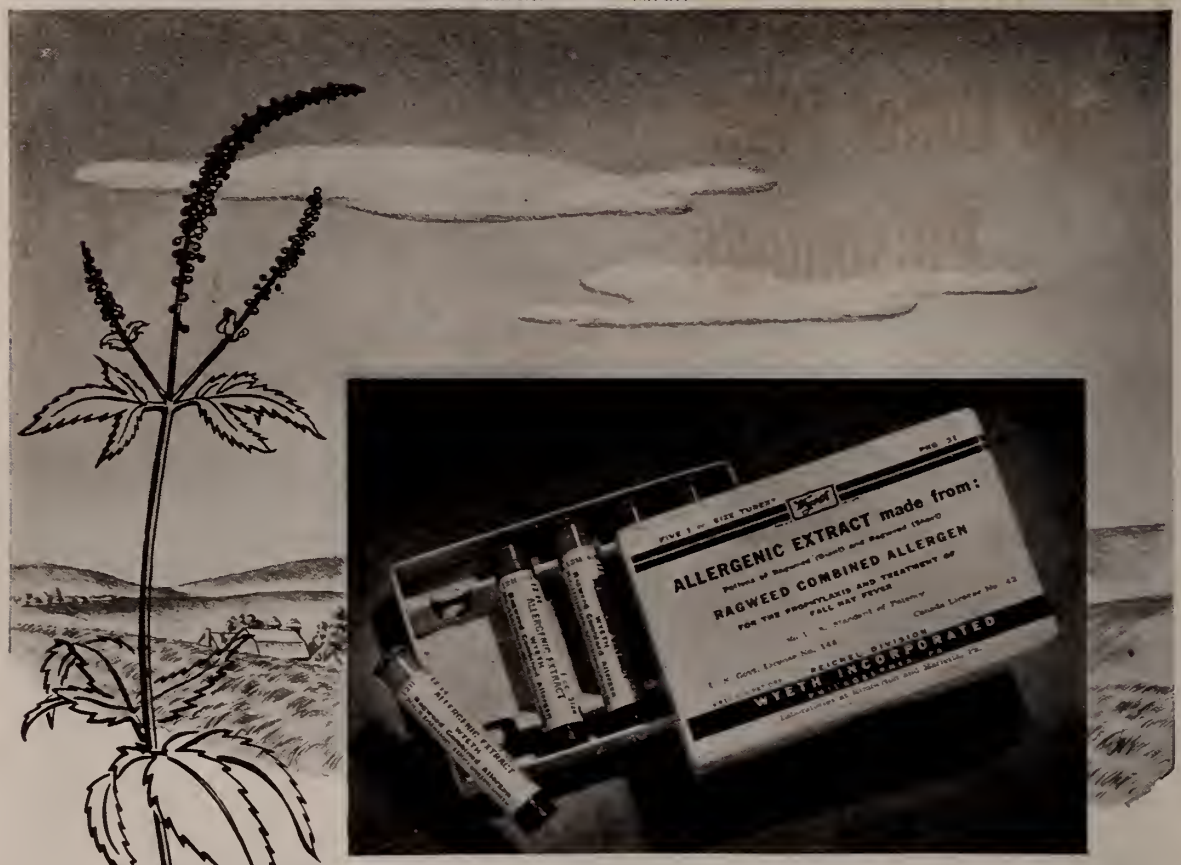
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The active ingredients of Calmitol are camphorated chloral, menthol and hyoscyamine oleate in an alcohol-chloroform-ether vehicle. Calmitol Ointment contains 10 per cent Calmitol in a lanolin-petrolatum base. Calmitol stops itching by direct action upon cutaneous receptor organs and nerve endings, preventing the further transmission of offending impulses. The ointment is bland and nonirritating, hence can be used on any skin or mucous membrane surface. The liquid should be applied only to unbroken, nontender skin areas.

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918. Office of Publications, 715 Lake Street, Oak Park, Ill.

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OF **FALL HAY FEVER**

RAGWEED COMBINED ALLERGEN

A NEW ADDITION TO THE TUBEX PREPARATIONS, Ragweed Combined Allergen, is made from the pollens of both the giant and short varieties of ragweed.

The importance of the Ragweed group as causative agents of fall hay fever can hardly be exaggerated and the use of a mixture of these two pollens for parenteral therapy is both logical and practical.

Hyposensitization injections provide greater relief than any other form of treatment.

THE FOLLOWING TUBEX POLLEN TREATMENT SETS ARE ALSO AVAILABLE:

Mixed Grasses • Southern Formula • Rocky Mountain Formula
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*PACKAGED: FIVE 1 cc. SIZE TUBEX**

ORDERS FOR SPECIAL FORMULA TREATMENT SETS RECEIVE PROMPT ATTENTION

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A NEW TUBEX PREPARATION

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without regard for pH

GENITO-URINARY TRACT INFECTIONS can often be simply yet effectively combatted with Serenium (2, 4-diamino-4′-ethoxy-azobenzene hydrochloride) without regard for pH. One tablet t.i.d. before meals, without laborious acidification or alkalinization, affords bacteriostatic action against a wide range of pathogens; and exerts an analgesic effect on inflamed genito-urinary mucosa. Serenium in chocolate coated 0.1 gram tablets in bottles of 25, 50 and 500.

Serenium
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MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

AVERAGE MEASUREMENTS OF BOYS' AND GIRLS' HEIGHT IN INCHES

Age	Boys	Girls
Birth	20.2	19.9
3 months	24.1	23.7
6 months	26.4	26.0
12 months	29.5	29.0
18 months	31.9	31.4
2 yeors	33.9	33.4
3 yeors	37.3	36.7
4 years	40.2	39.6
5 years	42.7	42.2
6 years	45.0	44.6
7 yeors	47.2	46.8
8 years	49.2	48.9
9 yeors	51.2	50.9
10 years	53.2	53.0
11 years	55.2	55.3
12 years	57.1	57.6
13 years	58.9	59.7
14 years	60.7	61.4
15 years	62.4	62.5
16 years	64.0	63.2
17 years	65.4	63.7
18 years	66.6	64.0
19 years	67.5	64.0
20 years	68.0	64.0



AN INCH A YEAR

Boys and girls grow more than an inch a year from their sixth to their twentieth birthdays. But too often children lack the vitamins needed to chalk up this gain since even essential vitamins A and D are often omitted after infancy.

'AVIMAL', a polyvitamin mixture, furnishes many vitamins required daily for optimal growth. In only three teaspoonfuls, there are sufficient quantities of vitamins A, D, B_1, B_2 and nicotinamide to meet the minimum daily requirements of the average child. May be mixed with water, milk, or fruit juices. Both children and grownups like 'AVIMAL'S' pleasant flavor even after long use.

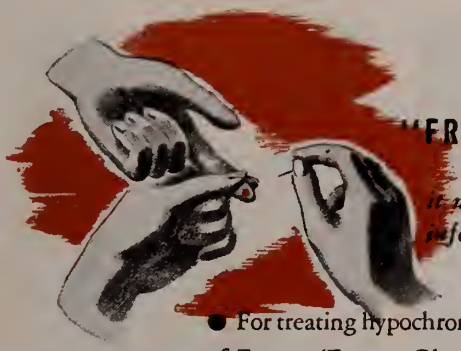
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A pleasantly flavored polyvitamin preparation

'AVIMAL' Registered Trademark

Daily dose (3 teaspoonfuls) contains: Vitamin A, 5000 U. S. P. Units; Vitamin D, 500 U.S.P. Units; Vitamin B_1, 2 Milligrams; Vitamin B_2, 2 Milligrams; Nicotinamide, 15 Milligrams. Bottles of 8 oz., 1 pt. and ½ gal.

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"FROM A CLINICAL POINT OF VIEW...

*it must be assumed that every patient with chronic infection is anemic."**

● For treating hypochromic anemias, Hemo-genin combines the advantages of Fergon (Ferrous Gluconate Stearns) with the nutritional values of vitamin B complex plus liver concentrate. Because Fergon is rarely associated with gastro-intestinal distress, Hemo-genin may be administered before meals to enhance iron absorption.

Hemo-genin

Fergon Plus B Complex

FOR HYPOCHROMIC ANEMIAS REQUIRING IRON AND B COMPLEX



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Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

FACTS ABOUT HEMO-GENIN

COMPOSITION: Fergon (Ferrous Gluconate Stearns), synthetic vitamin B complex factors, and liver concentrate. Six capsules daily supply 12 gr. ferrous gluconate and the daily requirement of B vitamins.

NON-IRRITATING to gastro-intestinal mucosa because low degree of ionization makes it virtually non-astringent. May be administered before meals to facilitate maximum absorption.

GREATER iron utilization shown by clinical comparison of ferrous gluconate with other iron salts.†

†J. Clin. Investigation 16:547, 1937.

INDICATED in hypochromic anemias requiring iron and vitamin B complex. Especially valuable when patients do not tolerate other forms of iron.

DOSAGE: Two capsules three times daily, before or after meals.

SUPPLIED in bottles of 100 and 500 capsules.

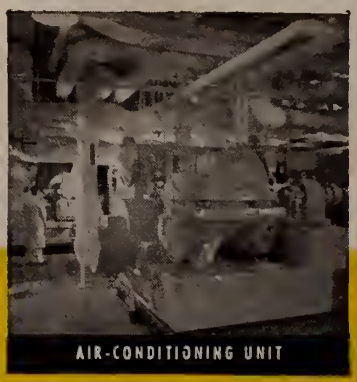
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*J.A.M.A. 123:1007, 1943.

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FERMENTATION TANKS


AIR-CONDITIONING UNIT


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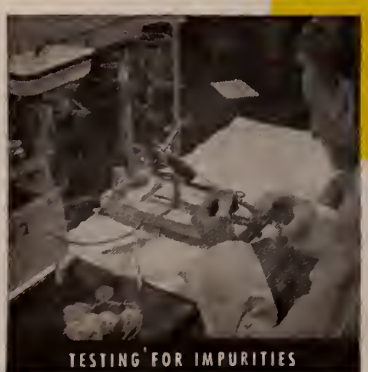
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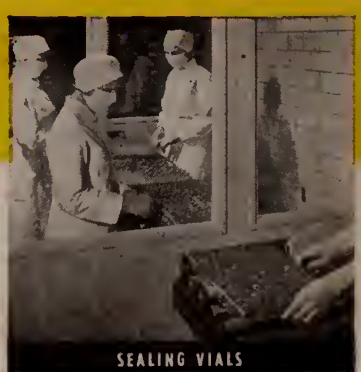
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WORLD WAR II — and the critical need for life-saving penicillin — has changed Cheplin Laboratories from a modest manufacturer, specializing for two decades in parenteral therapeutics, to one of the five largest producers of penicillin in the world. This almost miraculous metamorphosis is not the result of haphazard growth. It is the result of careful planning by far-seeing, aggressive management and a carefully-selected, balanced staff of technicians and scientists.

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"I want to put him on DRYCO, and we can adjust the formula to suit his requirements."

DRYCO is a scientifically adjusted powdered milk food ... ideally suited to a wide variety of high-protein, low-fat formulas (2.7 to 1 protein-fat ratio).

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BACTERIAL EAR INFECTIONS



White's OTOMIDE

More effective topical chemotherapy for both acute and chronic ear infections is now provided in the scientific formula of White's Otomide:

FORMULA:

Carbamide (Urea).....10%
Sulfanilamide..... 5%
Chlorobutanol..... 3%
Glycerin.....q.s

ACTION:

Effectively antibacterial and analgesic; hypertonic, non-irritating.

ADVANTAGES:

1. Carbamide in association with sulfanilamide enhances *antibacterial activity*, inhibits sulfonamide-antagonists in purulent exudates.

2. Chlorobutanol (therapeutically compatible with sulfonamides) provides effective *local analgesia*.

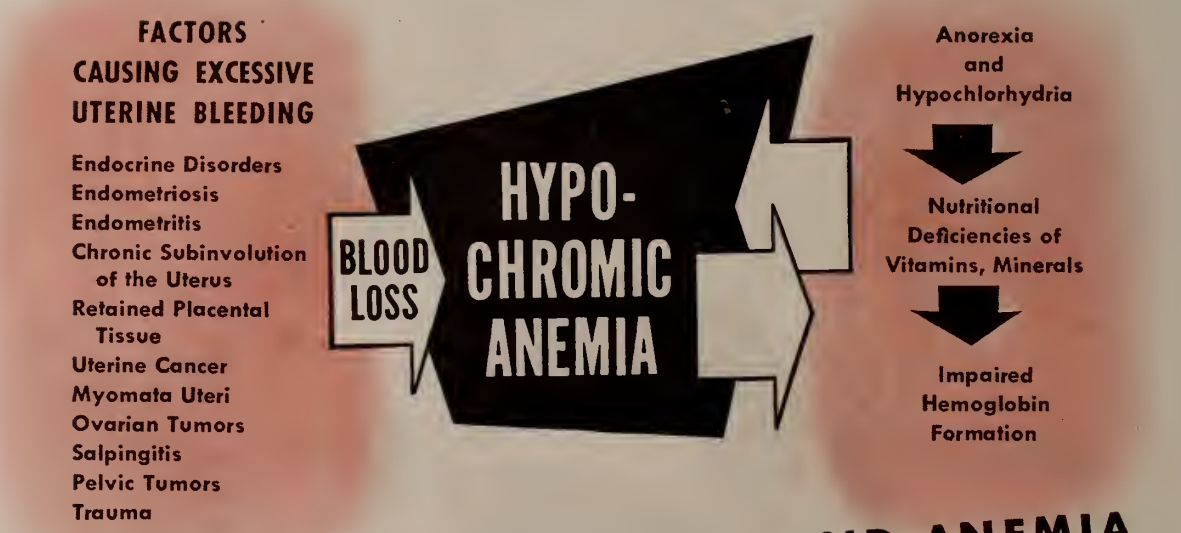
3. The foul odor and discharge of purulent otorrhea are promptly overcome.

INDICATIONS:

Local prevention and treatment of acute and chronic bacterial infections of the middle ear and external auditory canal.

● White's Otomide is available in dropper bottles of one-half fluid ounce (15 cc.)—*on prescription only*.

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MENSTRUAL ABERRATIONS AND ANEMIA

Among the foremost causes of secondary anemia in women are the frequently occurring menstrual aberrations which increase the volume of uterine bleeding. The resulting depression of the hemoglobin level is usually associated with reduction of gastric acidity, loss of appetite, lack of stamina, and of the sense of well-being. These conditions impair the intake, absorption and utilization of the essential blood-forming substances at a time when their requirements are increased. Thus the severity of the anemic state is increased by the lack of iron and the vitamins which aid in its utilization, and in turn the anemia accentuates the anorexia.

Heptuna has proved effective in correcting the entire anemia syndrome because it provides not only an adequate amount of readily utilizable iron, but also the fat-soluble vitamins A and D, and the particularly needed B complex vitamins (partly derived from liver extract and yeast)—factors known to be important in the maintenance of normal blood levels and for optimal health.

J. B. ROERIG & COMPANY

536 Lake Shore Drive · Chicago 11, Illinois



Each Capsule Contains:

Ferrous Sulfate	4.5 grains
Vitamin A	5000 U.S.P. Units
Vitamin B_1 (1 mg.)	333 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin G (0.50 mg.)	500 micrograms

together with liver concentrate (vitamin fraction), derived from 4 grams of fresh liver, and dried brewers' yeast.

Heptuna

a **ROERIG** *Preparation*

Does Tampax "Flat Expansion" assure "Natural Comfort"?

DECIDEDLY—

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REFERENCES: 1. West. J. Surg. & Gyn., 51:150, April, 1943. 2. Clin. Med. & Surg., 46:327, August, 1939. 3. Am. J. Obst. & Gyneo., 46:259, 1943.

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3 Toxicity was found low.

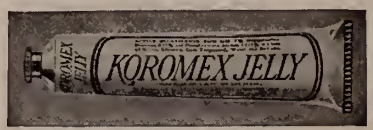
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1. Complon, B. C.; Bieren, R. E.; Jones, E. G.; Inloes Jr., B. H.; Kardash, T., and Hundley, J. M.: Treatment of Gonococcic Vulvovaginitis, *J. A. M. A.* 127:6 (Jan. 6) 1945.



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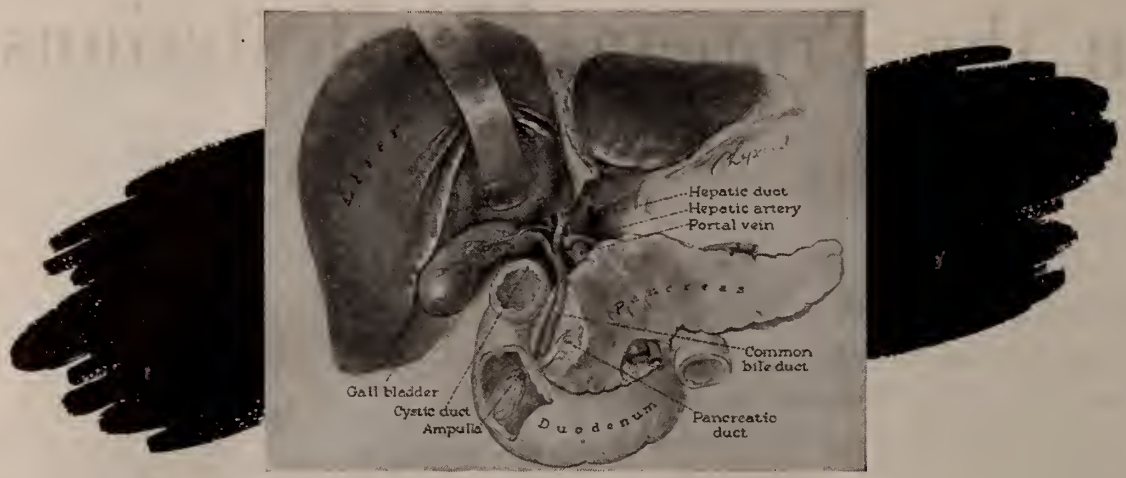


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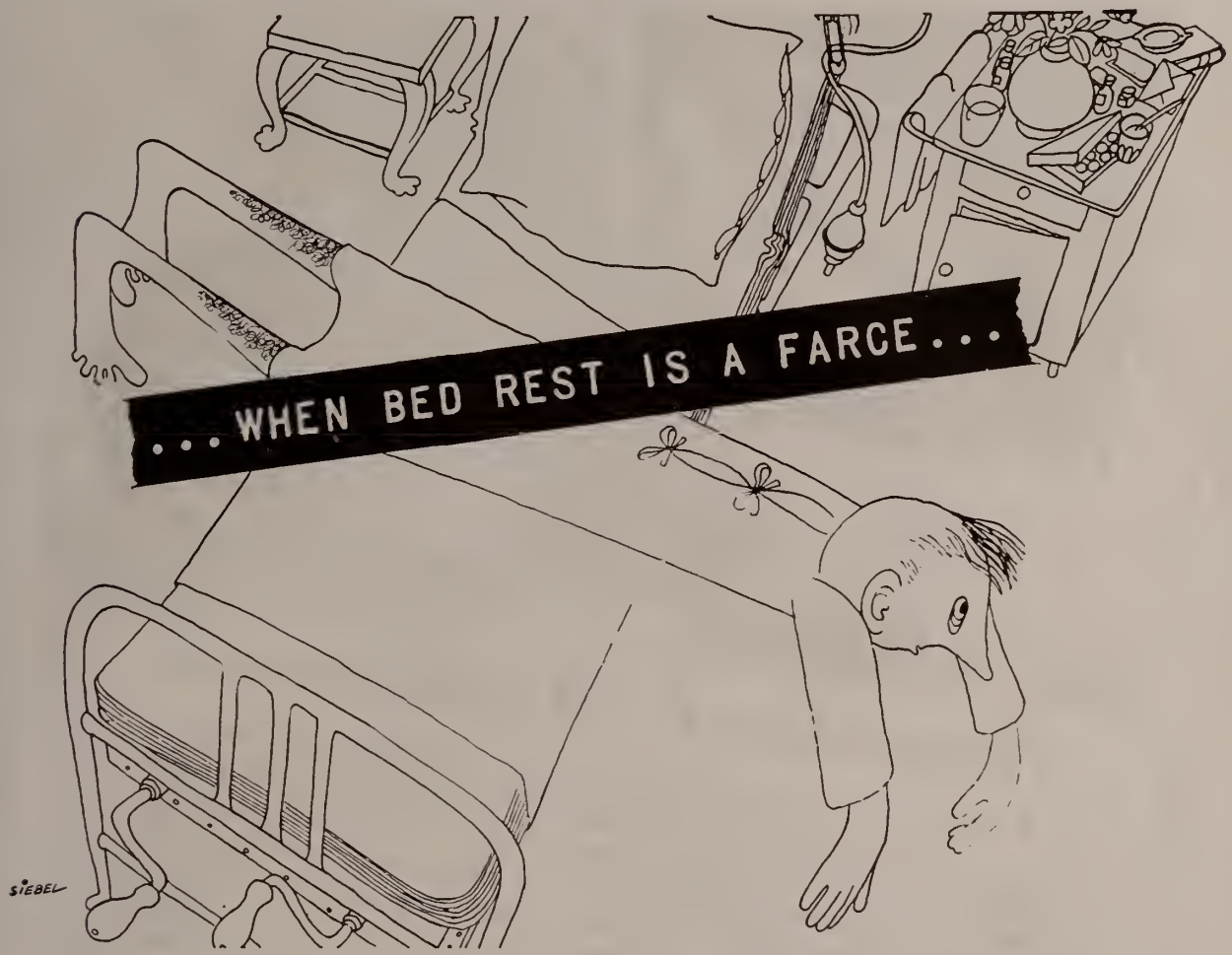
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*DeLor, C. J. and Means, J. W.: Clinical Studies on the Berry of Sorbus aucuparia, Rev. Gastroenterol., 11:319-327 (Sept.-Oct.) 1944.

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1. Gaadman, Louis and Gilman, Alfred: The Pharmacalagical Basis of Therapeutics, The Macmillan Company, New York, page 936, 1941.

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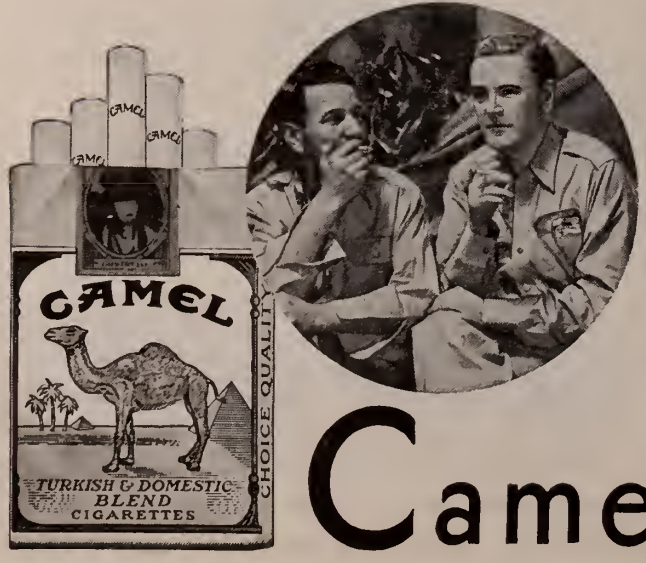
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*Reiter, P. J., Experience with Benzedrine, Ugeskr. f. laeger, 99:459-460, 1937.

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(1) New and Nonofficial Remedies, American Medical Association, 1944, p. 413. (2) H. W. Eisfelder, *J. Clin. Endocrinol.*, 2:628, 1942. (3) S. C. Freed, *Am. J. M. Sc.*, 205:735, 1943. (4) S. Duckman & T. R. Turino, *Am. J. Obst. & Gynec.*, 44:112, 1942.

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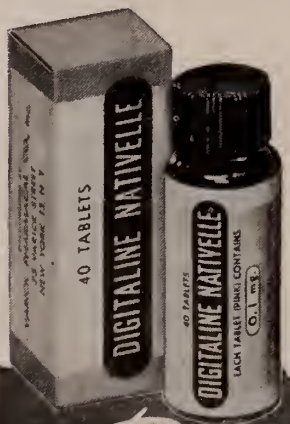
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*Gold, H.; Cattell, M.; Modell, W.; Kwit, N.T.; Kramer, M.L., and Zahm, W.: Clinical Studies on Digitoxin (Digitaline Nativelle) with Further Observations on Its Use in the Single Average Full Dose Method of Digitalization, J. Pharmacol. & Exper. Therap. 82:187 (Oct.) 1944.



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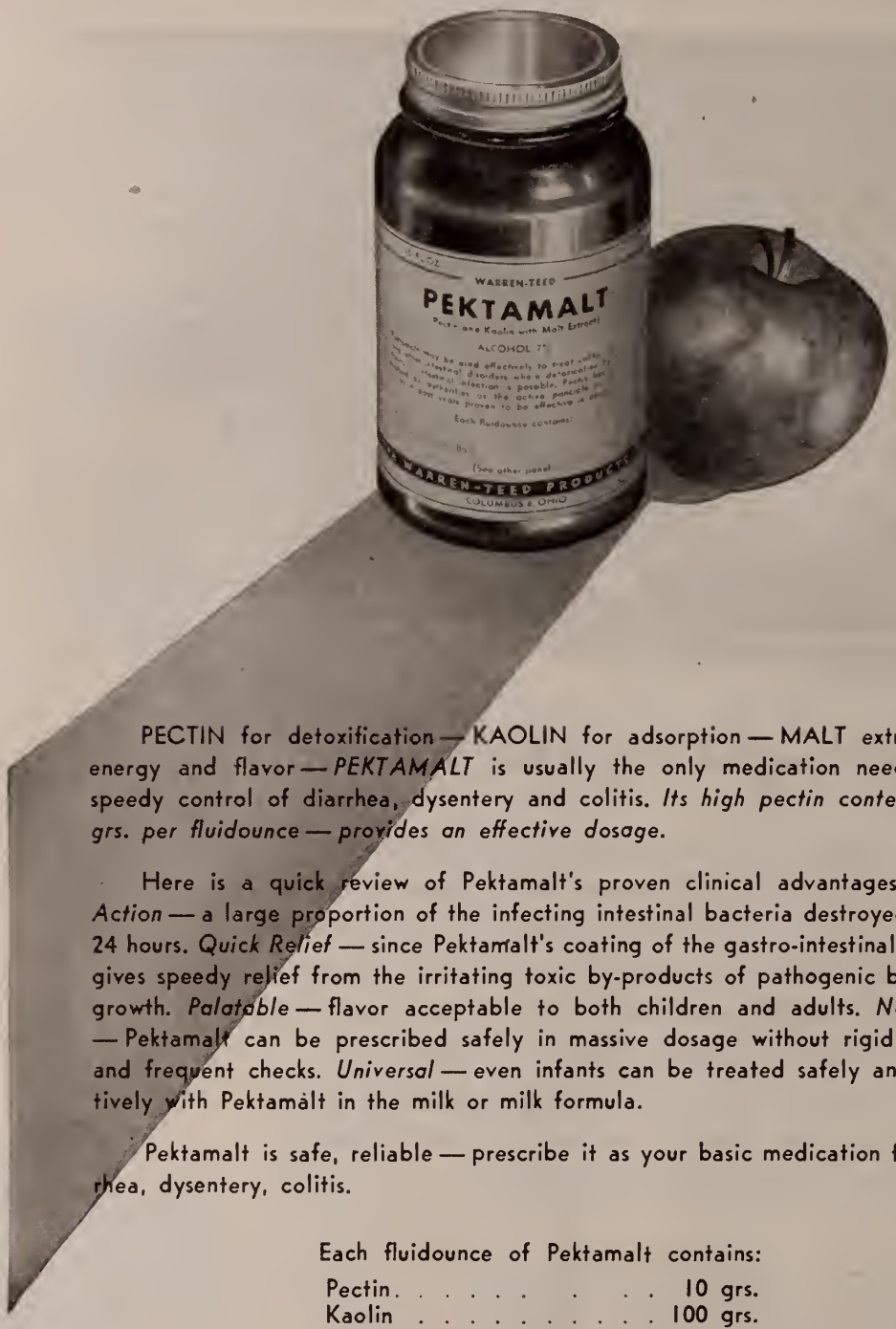
1. Am. J. Dis. Child. **54**: 1227, 1937.



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The Illinois Medical Journal

June, 1945

VOL. 87, NO. 6

Official Journal of the Illinois State Medical Society

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Editorials

THE NEW WAGNER BILL

It has been stated frequently in recent months that Senator Wagner would introduce in the near future, a new Wagner Bill as a substitute for the previously introduced Wagner-Murray-Dingell Bill. On May 24, Senator Wagner and Congressman Dingell introduced the bill and the preliminary reports have appeared in the daily press.

In the new bill contributions would increase to 4% on workers' pay and 4% on the employers' payrolls. The bill provides for an expanded unemployment insurance with the benefits uniform throughout the country. As was expected the bill provides a wide system of health insurance and all workers covered by social security would be compelled to subscribe. Unlike the previous Wagner-Murray-Dingell Bill some fifteen million farm workers, domestics, professional people and those in small business ventures would come under the Act.

Provisions are made according to the press reports, whereby there would be established a ten year program with federal and state appropriations financing hospitals, health centers and clinics in rural areas. Workers would receive compensation for those periods when they were disabled from illness or disability and would be entitled to 60 days hospitalization each year.

Senator Wagner, it is said, in discussing the bill, declared that it would provide for a choice of physician or dentist and they on the other hand could select their own patients so he does not consider this as being objectionable socialized medicine or the regimentation of physicians. He said that existing health and hospital insurance plans would not be affected by the bill.

At the time this is written no copies of the bill have become available, but the medical profession throughout the country will be interested in this bill which most likely will be as objectionable as any former bills introduced having similar objectives. In recent months the medical profession has heard much relative to the Wagner-Murray-Dingell Bill, the Dingell Bill, proposals of Senator Pepper. Senator Pepper in a recent broadcast from New York on February 7, 1945, informed the American people that there would be no half way measures, but that the American public must receive complete medical care to include hospitalization, general medical care and the use of all modern diagnostic and preventive medical and dental care.

We often wonder when statements of this type are made if the speaker actually knows all that can be included in a complete examination, with x-ray examinations of all parts of the body, blood chemistry determinations, cystoscopic, bronchoscopic and other procedures, in addition to the many other things that are occasionally necessary in rare cases but not needed at all as a part of the usual examination. If hospitals are established in rural districts and health centers

and clinics are set up, it is quite obvious that in war time there would be no physicians available to man these many institutions, and in normal times the supply would be entirely inadequate to give "complete" care to all comers.

With the multi-billion dollar programs envisioned in such measures as the new Wagner Bill, it would seem more appropriate in cases where the patient or members of the family were unable to pay for the so-called "complete" care, to provide through insurance channels, policies for these people so that they could remain independent and have the physician of choice plus specialists when indicated. This could be done without requiring the approval of swivel chair administrators many miles away telling who could or could not be responsible for their care and whether or not they really needed a specialist. At this time many new prepayment medical care plans are being set up which should care for those in low income groups and which should help them materially especially in cases of "catastrophic" illness.

As for the non-workers, once more they are not considered in the proposed legislation. Their care would remain where it has been over a long period of time. A more critical analysis should be forthcoming and published in the next issue of the Illinois Medical Journal.

DOCTORS AT WAR

Now that the European War is over much can be told relative to the part the doctor has played in the successful conquest of Germany, how preparations were made well in advance of the various forward movements, how they prepared for D-Day, and the anticipated number of casualties. Sixteen leading authorities contributed chapters in the recently published book, "Doctors at War" edited by Morris Fishbein, editor of the Journal of the A.M.A., and they tell the story in a graphic way of the many preparations which were made. The writers were the men responsible for the organizing of this medical service.

Many interesting stories are told in the book which should be read not only by physicians everywhere, but by patients of these doctors who have once more proven that modern wars cannot be successfully concluded without well organ-

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ized medical services planned well in advance of the outbreak of hostilities and before any campaign of advancement is undertaken.

Physicians in the United States can point with pride to the accomplishments of the medical corps with our armed forces and also to the fact that these 60,000 medical officers came from a country where there is no federal subsidization of medicine as is the case in so many other countries. Interesting stories of the work of the medical officers at Guadalcanal and Tarawa are told where many makeshift methods were substituted for the care of casualties in foxholes, on the beaches and any other places where they fell and where it was not always possible to have modern equipment on the spot at the moment.

The importance of the Air Forces and the work of the physicians attached to these services as related in the book by Major General David N. W. Grant, the Air Surgeon, is highly interesting. These medical officers had all received special training to enable them to solve the many problems in care which were arising constantly. Parents of the boys in service will read many of these stories with great interest and be thankful that their boys are with armies which are provided with the best medical talent to be found anywhere. They will be interested in the comparative statistics of mortality from disease and injuries of the first World War and the present conflict.

The many improvements in medical and surgical care since the atrocious raid on Pearl Harbor on December 7, 1941 will be extremely interesting to everyone. It has long been known that modern warfare invariably brings out many developments from the thousands of research projects which are under way and are multiplied so materially under stress of war.

Now that millions of men can be released from the European Theater and transported in larger numbers to the Pacific area it is quite obvious that much more rapid progress can be made there, and our two-ocean warfare becomes a concentrated effort to whip the Japs. Today with the many hundreds of bombers raiding the Japanese homeland each day with their inevitable destruction and the overwhelming forces which can now be made available for this concentrated drive, the Pacific war should be shortened materially.

During the past year we have seen D-Day and V-E Day, and we will all be looking forward to the greatest of all days to come for the American people — V-J Day, and the return of the armed forces to civilian life.

BALTIMORE KILLS BILL TO PROHIBIT USE OF DOGS IN RESEARCH

The Baltimore city council recently killed a proposed ordinance which would have prohibited the use of live dogs for experimental purposes in medical schools and laboratories of that city. Commenting on the council's action, *The Journal of the American Medical Association* for May 19 says:

"Baltimore is to be congratulated on this victory for reason and science over the sinister forces arrayed against medical research and the progress of medical science. The tragedy is that the fight in Baltimore will have to made again and again before state legislatures, city councils and the Congress. Ignorance, fanaticism, false sentimentalism and cynica irresponsibility are diseases for which science has thus far failed to find a remedy, even with the use of experimentation on animals that has yielded so much good to both animals and man."

A three hour hearing preceded the council's action on the ordinance. The most effective testimony was the introduction of two children and the mother of a third whose lives had been saved through a new type of operation by Dr. Alfred Blalock of Johns Hopkins Hospital. Dr. Blalock had worked out his blood vessel surgical technic by experimenting on dogs and, as a result, his method saved the lives of three children, who were born with malformed hearts.

Correspondence

FALL REFRESHER COURSE IN LARYNGOLOGY, RHINOLOGY AND OTOLOGY

The University of Illinois College of Medicine announces its sixth semi-annual Refresher Course in Laryngology, Rhinology and Otology, September 24th through September 29th, 1945, at the College, in Chicago. The course is intensive and largely didactic, but some clinical instruction is also provided.

It is especially suited to specialists unable to devote a longer period for advanced instruction and to others seeking a comprehensive review of the field of otorhino-laryngology. The number of registrants will be limited. It is therefore desirable to apply for registration immediately. The fee is $50. When applying, give full details as to school, and year of graduation, post graduate training, college degrees, etc. Write to Dr. A. R. Hollender, Chairman, Refresher Course Committee, Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

INTERNAL MEDICINE SOCIETY ANNOUNCES NEW OFFICERS

At the Annual Meeting of the Chicago Society of Internal Medicine held May 21st, the following officers were elected:

President ..... Samuel Soskin, M.D.
Vice-President .... Laurence E. Hines, M.D.
Secty.-Treas. ..... Howard L. Alt, M.D.

CHICAGO GYNECOLOGICAL ELECTS NEW OFFICERS

At the Annual Meeting of the Chicago Gynecological Society held May 18, 1945, the following officers were elected:

President ..... James E. Fitzgerald, M.D.
President-Elect ..... Ralph A. Reis, M.D.
Vice-President .... Eugene A. Edwards, M.D.
Secretary ..... Herbert E. Schmitz, M.D.
Treasurer ..... Henry Buxbaum, M.D.
Editor ..... Philip H. Smith, M.D.
Pathologist ..... Robert M. Grier, M.D.

NEW DRUG HOLDS PROMISE IN TREATMENT OF TYPHOID FEVER

A promising new drug, related to penicillin in its germ-killing power, has been found useful in the treatment of typhoid—a disease for which heretofore there has not been a treatment of any value, it is reported in *The Journal of the American Medical Association* for May 19.

Hobart A. Reimann, M.D., William F. Elias, Ph.D., and Alison H. Price, M.D., Philadelphia, studied effects of the drug during a local typhoid epidemic in December 1944. About 60 cases with 8 deaths were reported during the epidemic, all of them arising from a typhoid carrier in a bakery. Because amounts of the drug were limited, only five patients were selected for treatment and study.

The drug, streptomycin, is a nontoxic substance which, like penicillin, has an inhibiting or destroying action upon bacterial growth. It acts, however, upon some disease producing bacilli on which penicillin has no effect, including Eberthella typhosa, the microbe which causes typhoid.

Of the 5 patients treated by hypodermic injection with streptomycin, recovery took place in 3 during treatment. The authors point out that different strains of this germ vary in their resistance to streptomycin. This may explain why not all of the patients responded to the new treatment.

★ BUY ANOTHER BOND ★

State Department of Public Health

STATE PUBLIC HEALTH SERVICE

The Second of Two Articles on the History of the State Department of Public Health

Roland R. Cross, M.D., Director

It is important to observe that even after the creation of the State Board of Health in 1877, the General Assembly was skeptical as to what it could do and the benefits that might be derived therefrom. This attitude is revealed by the fact that the appropriation to the Board for the first year was only $5000 and at no time prior to 1900 did the annual appropriation for ordinary operating expenses exceed $12,000. Manifestly little could be done on a State-Wide program with such niggardly resources.

It is significant to observe, also, that from the very outset in Territorial days there was and still exists to some extent a dual conception of the basic principle of public health service. One is that good doctors is the dominant factor necessary to good public health; that if we have only good doctors and plenty of them, the solution of health problems will take care of itself. The other conception is that over and above the availability of good doctors there is a need for organized effort to stimulate the use of medical service along preventive lines and to promote sanitation and the kind of behavior and practices which will result in healthful living.

After the enactment of the laws in 1877 the "good doctor" conception dominated the activities of the State Board of Health during the forty years of its existence. While the Board gradually took on other functions such as diagnostic laboratory service, sanitary engineering, popular health education, the distribution of curative and preventive biologics and the collection and study of vital records, its principal activity embracing two-thirds of its energy and resources, was the licensing of physicians and the regulation of medical education. That function was, of course, very important and grew increasingly so with the rapid growth of medical knowledge. By the same token the other functions and potential functions of the Board, which were of great value to the public health, grew in both importance and magnitude.

Among the advancements in scientific knowledge of great significance to the public health movement which took place during the life of the State Board of Health, 1877-1917, were the following:

The identification of such germs as those that cause diphtheria, typhoid fever, cholera, tuberculosis, gonorrhea, syphilis and several others; the discovery of the part played by mosquitoes in the spread of malaria and yellow fever; the development of the blood test for syphilis and the Schick test for diphtheria and of various curative and preventive biologics such as diphtheria antitoxin and toxin-antitoxin, typhoid fever vaccine, anti-rabic vaccine and the antiluetic drugs; the development of methods for the purification of water and the sanitary treatment and disposal of sewage; the introduction of milk pasteurization. These and many other advancements provided a big field of opportunity and posed an overshadowing challenge to those interested in public health service.

For these reasons and in response to popular demand, the State Board of Health was dissolved in 1917 and the official responsibilities for the enforcement of the Medical Practice Act and for public health services were divorced. In that year the Civil Administrative Code, creating de-

partments to replace innumerable boards and commissions, was adopted. The responsibility for the licensing of physicians, as well as all other professions and trades, was placed in the Department of Registration and Education. The Department of Public Health replaced the State Board of Health on July 1, 1917, and since that time has been responsible only for the official public health program of the State.

When the State Department of Public Health was created in 1917, the organizational structure that still prevails was established. At the head was placed an executive officer known as the Director. Under the administrative control of the Director, the law provided for seven divisions. These were as follows: General Office, Communicable Diseases, Tuberculosis, Sanitation, Diagnostic Laboratory, Vital Statistics and Lodging House Inspection.

A total of 57 employees, including the Director, was provided for in the appropriation.

As pointed out previously, the actual performance of functions implied in this original organization of the Department ran ahead of the legal recognition of the need in the form of earmarked appropriations. Thus the systematic collection, compilation and study of birth and death reports began in 1903. A diagnostic laboratory was started in 1904 and a bureau of communicable disease control in 1915 and a bureau of sanitary engineering in the same year. In 1916 a bureau of child hygiene and public health nursing was created. The later identification of these functions as divisions and their emergence as integral parts of the Department's organization bears witness of the evolutionary growth of the Department.

Historically the importance of the creation by law of the Department of Public Health in 1917 cannot be over-emphasized. It was an official recognition not only that the protection of the public health is a primary responsibility of the government but that the availability of knowledge, trained personnel and other facilities was sufficient to justify an official agency devoted entirely to public health service.

Dating from 1917, the history of the public health program in Illinois is a story of the growth of the State Department of Public Health in magnitude, activities and influence as the central directing force of public health service in the State. From an organization consisting of about 50 employees in 1917, the Department has grown to one that now has a personnel of about 800. The appropriations to the Department by the General Assembly have increased from $221,000 to approximately $2,000,000 per year ($3,983,988 for the biennium ending June 30, 1947.) In addition to the money appropriated by the State, the Department has available from Federal sources for the fiscal year ending June 30, 1945, a total of $1,206,600. The grand total available to the Department for that year is $2,823,025, more than ten times the amount at the command of the Department in its first year of life in 1917. This growth in financial resources is a tangible measure of steady increase of popular interest in and demand for more and better health protection and of the confidence of the General Assembly and of the State Administration in the public health service as reflected in the program of the Department. It indicates, also, of course, the continued development, acquisition and expansion of scientific knowledge of practical and beneficial use in the field of public health.

Subsequent to 1917, perhaps the most important and far-reaching influence on the Department of Public Health was the enactment by Congress of the Social Security Act. Under the provisions of that law a considerable sum of Federal money, as referred to above, was made available annually to Illinois for public health purposes. About $250,000 of this money comes from the Childen's Bureau and is earmarked for maternal and child health services. About $425,000, comes from the U. S. Public Health Service and can be used for public health purposes generally. Another $400,000, approximately, comes from the U. S. Public Health Service also and is appropriated by Congress specifically for the control of venereal diseases.

A very significant factor in the grants by the Federal government is that their acceptance established in Illinois not only a close and effective effort between State and Federal agencies in matters of public health, but also the principle of grants-in-aid by the State to local public health departments in Illinois. The latter not only brings State and local health departments into closer, cooperative working relations but the ability to provide financial aid gives the State Department of Public Health a very

important and fruitful means of stimulating improvement and expansion in local health departments.

Another event of outstanding importance was the passage in 1943 by the State General Assembly of a law that permits counties to establish and maintain their own autonomous health departments. The enactment of that law brought into climactic focus the home rule principle of government in Illinois and placed the State Department of Public Health on official record to function on that principle as a matter of established policy. Up until about 1940, the trend of development in public health service in Illinois had been toward a strong, centralized State health agency. The services of the Department of Public Health were rendered directly to the people by the several divisions in the Department. This trend was reversed in 1940. Since that time the policy of the State Department has been to operate through local health departments wherever possible and to encourage the development of strong local health departments. The soundness of this policy should be clear. Health protection is just as individual as is education. Consequently adequate local health departments are as important to public health as are local schools to education.

Like any other organized effort, the character, magnitude and effectiveness of the State's public health program is determined in large measure by the person at the head of the Department of Public Health, the Director. It is he who determines the policies that prevail throughout the organization; it is he who maps out the over-all program of activities; it is he who must obtain the financial resources on which to operate and he is responsible for the economic and profitable expenditure of funds.

The Director is a member of the Governor's Cabinet and as such is answerable officially only to the Governor on administrative matters. The Director, therefore, shapes the general policies of the Department according to the pattern laid down by the Governor for his administration generally. All important matters of policy as well as proposed new programs of large significance are cleared by the Director with the Governor before final adoption. In developing policies the Director has the advice and counsel of a board of Public Health Advisors, appointed by the Governor and consisting of five members. He seeks also the advice and counsel of the Illinois State Medical Society and of the division chiefs of the Department. In this way the Director adopts policies that inspire the cooperation and support of the medical profession as well as of the public and which weld together into a harmonious team the operating units of the Department and integrate the Department into the general Administration of the State Government.

As to relations with the medical profession, a standing order of the Department, dated August 11, 1942, reads as follows:

"For the guidance of personnel of the State Department of Public Health in developing and executing programs at the State and local levels it is hereby ordered that the following rules be observed:

"1. That all public health programs involving medical services be planned in accordance with principles agreed to by the Illinois State Medical Society;

"2. That such programs be undertaken locally only after approval by the county medical society concerned has been obtained.

"3. That local programs be initiated only through local health officers in areas served by full-time health departments."

Medical Economics

The Medical Economics Committee — Chauncey C. Maher, Chmn., 6 North Michigan Avenue, Chicago, Edwin S. Hamilton, V. Thomas Austin, Emmet B. Bay, Jay McDonald Milligan, Jacob M. Mora, George Halperin, Marie Wessels, Thomas C. Browning, Roland R. Cross, Milton E. Bitter, Edwin F. Hirsch, Ford Hick, Lt. Col. MC, William J. Bryan, John R. Vonachen.

THE SELECTION OF MEDICAL STUDENTS

The careful selection of medical students has been a factor, often overlooked, in the general improvement of medical education in this country during the past forty years. Until this year the number of applicants to medical schools has exceeded so greatly the number of places available in the schools that careful selection was possible and was practiced in nearly all of the schools. For reasons which will become apparent neither the number nor the quality of the applicants are presently as satisfactory as they have been, nor will this condition improve for some years. Since the quality of the medical school product, i.e., the doctor, is largely dependent upon the quality of the raw material, i.e., the pre-medical student, the above facts are disheartening to the profession and should be disturbing to those who have in any way contributed to their development. Some of the decline in quality and quantity is inevitable during a war and can be blamed on no one. The kind of man whom we would most like to see in medicine is likely to be the same unselfish, active man who would volunteer promptly for the defense of his country, or would prefer to be in combat duty rather than in a medical school during war-time.

Until this year the Army supported 53% and the Navy 25% of each class in the medical schools. Beginning this year the Army has cut its quota to 28% and will permit only one class to enter a medical school in a calendar year although most medical schools under the accelerated program will have two entering classes every other calendar year. Thus, for one of these classes there will theoretically be service support for 53% of the class and for the other, only the 25% covered by the Navy. This leaves 47% and 75%, respectively, of the places in these classes to be filled by 4 F's or women, because under present selective directives there can be no deferment of healthy men for the medical schools. The number of non-service places to be filled will probably be much larger because the services have greatly curtailed their pre-medical programs. There are thus only 700 students in the Navy pre-medical program, and since there are approximately 5,000 students in each entering class throughout the country, it is obviously impossible for the Navy to supply the 25% it is willing to supply.

The medical schools are finding it impossible to fill their classes with well-qualified women and 4 F's. At a time when the Navy is seriously understaffed, medically speaking, and there is considerable social pressure to extend medical services within the civilian population, the medical schools are being forced to curtail their output. This does not make sense.

It is not being done by any of our allies or, so far as we can learn, by Germany. In Russia the problem is being met by a very large increase in the percentage of women admitted to medical schools, reaching 85% in some. It is doubtful if this solution could be obtained in this country or would be desirable if it could. There certainly are not that many women interested in medicine and qualified to study it now. Past experience would indicate that if they could be encouraged to do so, it would represent a somewhat wasteful procedure because the average professional life of the woman graduate in medicine is considerably shorter than that of her male counterpart. Nor have we assurance that such large numbers of women doctors would be ac-

cepted by the public.

Among the 4 F's there are some whose handicap in no way jeopardizes their performance in school or thereafter, but there are others who should not attempt the study of medicine. There are not enough of the former interested in the study of medicine to fill our classes.

A related problem which is just beginning to influence the selection of medical students concerns the admission of discharged veterans. Those discharged for neurophyschiatric reasons present the most serious difficulty to conscientious admission committees. These committees desire to aid the veteran but to protect him from further trouble and to protect the public from unstable physicians. This requires an omniscience few members of such committees would lay claim to. It is almost certain some serious mistakes will be made.

We do not know the number of veterans who will apply to the medical schools for admission. Indications are that there will be an insufficient number to fill the classes for the next two years at least. Surprisingly few of all those who will eventually be entitled, under the G. I. bill of rights, to a part or all of a medical education will be interested in or qualified to secure this. Of 100,000 men discharged from the services in the middle-west only 4,000 have thus far indicated any desire to continue their education, and only 16 of these have decided to enter premedical or medical schools.

When hostilities cease two factors may prevent the medical schools from obtaining full classes very quickly. One is definite and results from the fact that there will be no back-log pre-medical students who will have completed their premedical education since they will have been taken by the Army at age 18. The second, for the moment unsettled, is the result of the strong pressure for universal military training, which, if enacted, will result in an additional year's delay in the recovery of the enrollment in the schools. What effect, if any, this will have on the number and quality of men desiring to study medicine is unpredictable, but it might well be disadvantageous. When this serious reduction in the number of medical students, apparently inevitable in the near future, is considered along with the serious reduction in the number of men at present being well trained in the specialties (ably described by Dr. Evarts Graham in a recent Saturday Evening Post article), the future prospects of medicine in this country would appear to be unnecessarily jeopardized. This is true for the immediate future and the effects will probably be felt for some forty years.

England recognized the disastrous effects of such a program toward the end of the last war, has been aware of them ever since, and has taken steps to make sure that it did not happen this time. This country should have profited by that example, but since it did not, the next best thing would be to make whatever changes are necessary in selective service procedure so that the schools will not be running half-filled or less from 1946 on. This would require the deferment of some five to ten thousand men at first, and of some twenty to thirty thousand, at most. This peak would not be reached for three years. Two considerations would seem to make this a reasonable request. The number is small compared to all those in the armed forces or those deferred for agriculture, and second, the status of the war in Europe would indicate that these men could be better used by preparing them to assist in the great tasks ahead of medicine in the next forty years rather than by placing them in training for combat duty.

Senate Bill No. 637 has been introduced by Senator Allen J. Ellender of Louisiana and is designed to accomplish the deferment of an adequate number of pre-medical and medical and pre-dental and dental students. It is a satisfactory measure and deserves the support of all doctors and dentists.

If the deferment of an adequate number of men to fill our classes is legalized, a mechanism for their selection must be developed. It will not be easy. The motivation and aptitude, including personality and scholastic ability, will have to be evaluated before the candidate reaches the age of 18. Admission committees have already faced this problem and although they find the procedure more difficult and the result less satisfactory than in peace time, they would generally agree that it can be done and would certainly be worth attempting rather than suffer the serious curtailment now threatened. Motivation will be the most difficult factor to be sure about. The schools are not anxious to foster draft-dodging nor to have the kind of students who would be draft-dodgers. Personal interviews

(*Continued bottom of page* 280)

Medicine's Role in the War Effort

V-E DAY MEANS BIGGER TASK FOR ARMY MEDICAL DEPARTMENT

The ending of hostilities in Europe means that the doctors, nurses, technicians and other personnel who comprise the Army Medical Department will now begin an even bigger job than they have been doing which means there is no immediate prospect for the general release of personnel, Major General Norman T. Kirk, The Surgeon General, declared on V-E Day.

The Medical Department, he pointed out, not only must continue to care for the sick and wounded but must make immediate preparations for the redeployment of troops to the Pacific or this country.

One of the biggest tasks will be to give physical examinations to some 3,500,000 soldiers before they leave Europe. In addition, a goal of 90 days has been set in which to evacuate the sick and wounded from the European Theater to this country. Then there will be the final matter of redeploying the Medical Department personnel and equipment.

Soldiers whose condition necessitates a medical discharge will be given further treatment and necessary examinations in the United States. All soldiers, prior to discharge from the service, will be screened for tuberculosis, syphilis and other diseases, and for possible strains and other physical defects. Thus hospitals here will probably be operating at capacity with a critical need for medical personnel for many months to come.

"Practically all officers and men in the Medical Department came in for the emergency," said the Surgeon General, "and so far as we are concerned the emergency is far from being over."

☆ ☆

WOMEN DOCTORS ASSIGNED TO IMPORTANT TASKS

Eleven commissioned women doctors are serving with the U. S. Army Medical Service in the European theater of operations in capacities that range from general hospital ward surgeon to assistant medical military attaché in the American Embassy, London.

Three of these women doctors arrived in England late in 1941 at the request of the British Ministry of Health because of the critical shortage of surgeons and physicians after Dunkirk. Major Marion C. Loizeaux, Wellesley, Mass., was the first woman doctor to be commissioned in the European theater. Formerly an assistant physician at Wellesley College, she is serving on the staff of Major Gen. Paul R. Hawley, theater surgeon, as a special consultant in all matters pertaining to the medical care of the Wacs.

The two other doctors who were volunteers and are in the European theater are Capt. Eleanor Peck, Poughkeepsie, N. Y., who is assigned to the Shaef Dispensary, and Capt. Josephine Stephens of Monongahela, Pa., who is assigned to a general dispensary in Paris. A fourth, Capt. Mila Pierce, Chicago, who was a general hospital ward officer, was returned to the United States recently after she had fallen and broken her hip.

These four physicians—among twelve women doctors selected from five thousand applicants by the British Ministry of Health—were in England to greet the American Army when it arrived overseas. The four were first accepted by the U. S. Army medical service as contract surgeons and were later commissioned. Major Loizeaux was made a captain in September 1943, and the others were commissioned shortly thereafter.

Another of the twelve women doctors who served with the British as a volunteer is Major Sally Bowditch, Boston. She is assistant medical attaché to the American Embassy in London—the first woman attaché in the embassy's history. She returned to the United States at the request of Johns Hopkins University and was commissioned there in November 1943.

Included on the medical staff of a newly arrived general hospital are four women doctors: Capt. Jessie D. Read, Westfield, N. J.; Capt. Clara Raven, Youngstown, Ohio; Russian born and educated Capt. Bronislava Z. Reznick, Chicago, and 1st Lieut. Elvira C. Seno, Burlington, Wis.

Capt. Martha Howe, New York, is a recent arrival in England from the Mediterranean theater and is now a surgical ward officer in a general hospital. First Lieutenant Jean Dunham, North West Washington, D.C., anesthetist with a general hospital in England, was recently promoted to the rank of captain.

Capt. Katherine E. Jackson, Fort Wayne, Ind., is an anesthetist with a general hospital. She spent five weeks doing forward area work with field and evacuation hospitals before her own unit began actual operation. A member of the twelve original women doctors who went to England as volunteers, Major Barbara Stimson, Royal Army Medical Corps, is serving with a British hospital in Italy.

There are approximately seventy-five women doctors in the U. S. Army Medical Department in all theaters.

☆ ☆

GENERAL LULL DISCUSSES PSYCHONEUROTICS

Speaking on the "Doctors Look Ahead" radio program recently, Major General George F. Lull, USA, Deputy Surgeon General, stated that out of every hundred soldiers suffering from combat-engendered emotional disturbances, 40 to 50 are fit for return to combat after two days under the care of their divisional psychiatrist. An additional 10 to 15 men return to combat after two weeks of treatment in forward hospitals. About 30 more of the hundred improve sufficiently to remain in the theater in some noncombat job, while others can continue to do some type of Army work in this country.

The remainder who are discharged from the Army suffering from some type of psychoneurosis are not insane, General Lull stated emphatically. "Treat them with naturalness, understanding and patience," he advised. "Help them get established in their home, among their friends and in a good job — and the chances are 10 to 1 that their combat nervous symptoms will fade entirely."

☆ ☆

RATE OF RECOVERY FROM CHEST WOUNDS

In a recent release from the War Department, Major Gen. Norman T. Kirk, Surgeon General of the Army, reported that the rate of recovery from chest wounds is triple that of the first world war. The death rate of wounded men who lived long enough to reach surgery in the first world war was 24 per cent. Now it is 8, and this low rate has been achieved in spite of the fact that chest wounds are more serious in this war because of the increase in bomb fragments. The teams of young surgeons on the battle lines believe that if the wounded man can be got alive to an evacuation hospital, the surgical station closest to the front lines, the chances are that he will live.

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HARMON GENERAL HOSPITAL IS TROPICAL DISEASE CENTER

Harmon General Hospital, Longview, Texas, was recently designated for the treatment of tropical diseases. The only other army tropical disease center is Moore General Hospital, Swannanoa, N. C. Lieut. Col. Francis R. Dieuaide, chief of the Tropical Disease Branch, Medical Consultants Division, Office of the Surgeon General, stated that the medical staff of Harmon General Hospital has for some time been engaged in a study of relapsing malaria which has resulted in a permanent contribution to the knowledge of the disease. This study is now being extended to other tropical diseases which are rare in this country, such as filariasis, schistosomiasis and dysentery. Col. Gouveneur V. Emerson is commanding officer of Harmon General Hospital, Lieut. Col. Worth B. Daniels is chief of the medical service and Lieut. Col. Stuart W. Lippincott is chief of the laboratory division.

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HOSPITAL TRAIN UNIT RECEIVES MERITORIOUS SERVICE PLAQUE

While evacuating wounded from the Seventh Army front, members of the veteran 42d Hospital Train were notified that they were awarded the Meritorious Service Unit Plaque for "outstanding devotion to duty." The train is commanded by Major Samuel S. Gordon, Louisville, Ky., and the chief of medical service is Capt. Harold F. Goulston, New Bedford, Mass. The citation reveals that the 42d was the first hospital train to operate in southern France after the August 15 landing on the Riviera and was in continuous operation through the campaign which routed the Germans from southern and central France and on into Germany. In this period they carried 14,727 patients in forty-four round trips over a distance of 25,000 miles, as well as carrying 1,370 medical personnel and many tons of medical supplies to the Seventh Army.

Prior to the invasion of southern France the 42d operated in Italy, where it was cited by Major Gen. Arthur R. Wilson, then commanding general of the Peninsular Base Section, for evacuating wounded members of the American Fifth and British Eighth armies to rear areas. In North Africa the train took a direct part in the Sicilian campaign, receiving wounded by air evacuation at Constantine in Algeria. For services there the nurses of the unit were cited by the commanding general of the Mediterranean Base Section.

The 42d Hospital Train was activated on June 1942. Three fourths of present personnel have been with the unit since its activation at Camp Rucker, Alabama. After further training at Fort McPherson near Atlanta, Ga., the staff proceeded to North Africa, arriving there in April 1942.

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USE OF DDT FOR MOSQUITO CONTROL IN THE UNITED STATES

A Joint Statement of Policy by the U. S. Army and the U. S. Public Health Service

Successful use of the new insecticide DDT to combat insect borne disease among our troops overseas has brought sudden renown and notoriety to this potent war developed insect killer. Dramatic reports of its large scale use to control epidemics, and especially the spraying of DDT from aircraft, have fired public imagination and fostered the hasty conclusion that DDT is a complete solution to all of our insect borne disease problems. However, it must be remembered that DDT distributed over the country-

side not only destroys malaria carrying mosquitoes but also may kill other insects, many of which are beneficial. Much still must be learned about the effect of DDT on the balance of nature important to agriculture and wild life before general outdoor application of DDT can be safely employed in this country. It may be necessary to ignore these considerations in war areas where the health of our fighting men is at stake, but in the United States such considerations cannot be neglected.

Extensive investigations are now being carried out by authorized agencies to determine the usefulness and possible hazards in the large scale dissemination of DDT. Until more information has been obtained from such investigations and until it has been evaluated by all interested parties, plans to employ DDT indiscriminately for outdoor area control of insect disease vectors in this country are not to be encouraged.

Since the beginning of mobilization the Army has carried on an extensive antimosquito campaign inside military reservations, and the U. S. Public Health Service has maintained a cooperative program for the control of malaria in adjacent extramilitary areas. This joint effort has successfully prevented malaria from becoming a problem to troops in this country. To meet the hazard of possible spread of malaria by troops returning from overseas, the Army's program in military areas has been intensified and the program of the Public Health Service has been extended to include certain additional selected areas in the South, where risk of transmission is greatest. Representatives of the Army and the Public Health Service have given full consideration to ways in which this mosquito control program might be strengthened by employing DDT. The following joint policy has been agreed on pending acquisition of further knowledge concerning the large scale outdoor application of DDT:

1. DDT will be used for residual spray application to houses and other buildings for the purpose of killing adult mosquitoes before they have opportunity to transmit malaria. The long lasting killing effect off DDF as a residual spray provides a highly effective means to prevent the spread of the malarial parasite. This method of use is safe and economical and, moreover, is welcomed by the householder because it provides freedom from insect annoyance.

2. The use of DDT as a mosquito larvicide will be limited to experimental investigations and to situations in which DDT has definite advantage over other larvicides in saving materials and manpower, and presents no hazard to fish and other wild life.

3. Distribution of DDT from aircraft for large scale area control of mosquitoes in military and adjacent areas in the United States will be limited to projects conducted with due regard to the possible effects of DDT on beneficial insects and all forms of plant and animal life and in accordance with safeguards established by the Surgeons General of the Army and the U. S. Public Health Service.

CHEMICAL WARFARE SERVICE DESIGNS GAS MASKS

The War Department recently announced that the Chemical Warfare Service recently designed three gas mask sizes which will fit all soldiers in the Army. Ten different head types were established, five normal and five unusual. The selection on types was made by correlating measurements representing breadth, depth and length of the face. The normal type comprises an average head and two large and two smaller sizes. The unusual types are those in which two of the principal measurements correspond with normal heads but whose third major measurement does not. It was found that 65 per cent of the soldiers measured normal medium, 19 per cent medium small and 11 per cent medium large. Four per cent of the heads were small, 3 per cent large. In the unusual size, 7 per cent had "short fat faces," the largest single category in that group. The study was carried on at Camp Sibert, Alabama, where 3,075 men representing every state in the Union, Alaska and the Philippines were tested for facial and cranium measurements. The birthplace of the soldier and the nationality of his father were taken. Facial characteristics such as fleshiness of the face, prominence of the cheek bones, pointedness of the face, prominence of the forehead, structure and shape of the nose, size of lips and whether ear lobes were attached to the face were also noted.

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INTRASTERNAL PLASMA SAVES CREWMAN'S LIFE

The life of a B 29 crew man was recently saved when comrades gave him blood plasma through a new type of needle. The successful injection showed that the new intrasternal method of administering plasma can be used safely by airmen. The intrasternal method is being taught to the entire crew even before they start on bombing missions, so that this method can be resorted to when the patient is suffering from shock and his veins have collapsed.

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SERVICE COMMAND CONSULTANTS IN MEDICINE TRANSFERRED

Col. Vern R. Mason, former consultant in medicine of the Ninth Service Command, is now on duty overseas as medical consultant of the Pacific Ocean Area.

Col. Irving S. Wright, former consultant in medicine, Sixth Service Command, is now consultant in medicine, Ninth Service Command; Col. Alexander Marble, former chief of medical service, Harmon General Hospital, is now medical consultant, Sixth Service Command, and Lieut. Col. Worth B. Daniels is now chief of medical service at Harmon General Hospital, Longview, Texas.

SELECTION OF MEDICAL STUDENTS (Continued)

with applicants can usually settle this point.

We have been short-sighted. We should not continue to be so.

Original Articles

THE CORONARY OUTLOOK

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This is not to be a statistical survey of the mortality, life expectancy and potential longevity of individuals based upon either life insurance actuarial figures or the experiences of cardiologists. Rather it is the frank answer to the oft repeated questions from coronary patients — 1. "Just what can I safely do in the way of physical and mental exertion?" 2. "Within rough limits, what is my life expectancy?" The very nature of these questions brings up still another one, a bit more objective: are we doing enough to dispel the pessimism which surrounds most individuals with a coronary background? A very appreciable percentage of this group of patients are not alone introspective and hypochondriachal, but are fearful and uncertain to the point of being psychotic.

Before attempting to answer any of these questions, it is necessary to define the terms "Coronary Outlook" and the "Coronary Patient." I have already suggested the broad meaning of the former — the patient with coronary disease wants to know what his (or her) outlook is as to a safe "energy potential;" and to what extent his life expectancy is curtailed.

Let us approach the subject in an orderly fashion and appraise and define the coronary patient. Now, as I see it, there are four distinctly different types:

I. The arterio-sclerotic (atheromatous) which is the most common and accounts for the vast bulk of all coronary disease encountered clinically.

II. The embolic — which occurs particularly in rheumatic endocarditis and quite logically so, since the coronary mouths lie in the aortic ring, in close proximity to the aortic valves.

III. The luetic: the mechanism here consists of a pouching of the intima of the aorta into the openings of the coronary arteries.

IV. Hypertensive: in this type, the forceful closure of the aortic valves leads to constant and renewed pressure on the coronary arteries at their site of origin in the aortic ring.

It becomes evident at the outset of this discussion, that the outlook of the coronary patient depends upon many variables, an important one of which is the type or kind of coronary background in a given individual. Since the arteriosclerotic (atheromatous) accounts for the vast bulk of coronary disease, I should like to discuss it first, and in detail.

Coronary artery disease is part of the process of senility. I grant it occurs in early life, but basically and pathologically, coronary disease is part of the pottage of senility. Excluding those instances due to hypertension, syphilis, and those of embolic origin, the bulk of coronary disease is due to arteriosclerosis, more specifically atherosclerosis and therefore is a senile form of heart disease. Furthermore, since coronary disease is due to arteriosclerosis, its pathology is progressive and so it seems to me we see it clinically too.

I should like to present coronary disease to you as a clinically progressive situation and discuss it under three heads:

1. *Angina of effort.* Clinically this, it seems

to me, is the earliest expression of coronary disease, and the pain or distress or dyspnea or strangulation is the result of a temporary coronary insufficiency. There is some evidence that the initial pain of angina of effort speaks for a previous mild heart-muscle infarction. The clinical picture of angina of effort is so well known it hardly merits description. The sudden onset of precordial distress, usually following physical effort or mental excitation, with classical reference into the jaws or down the arms, unassociated with shock and quickly relieved by coronary dilators or postural rest, is not readily confused. It usually leaves the individual none the worse for his episode. The immediate management calls for no comment. It is of brief duration and corrects itself. However, the prophylactic management is another matter. If these attacks recur at frequent intervals, they predicate, in my opinion, a progressive pathology and an impending acute occlusion with infarction and call for a period of complete rest and careful observation.

The second stage in the clinical and pathological progress of coronary disease, is Acute occlusion with myocardial infarction and necrosis. The clinical picture is something like this:

1. History. As a rule there is the story of previous milder symptoms of coronary insufficiency, possibly one or more seizures of angina of effort.

2. The mode of onset is usually sudden, either while at rest or following physical effort.

3. The physical signs are usually characteristic. A sudden onset of severe pain or dyspnea or strangulation, and almost always associated with shock and prostration. The heart itself is considerably disturbed as to rate, usually rapid, rhythm usually irregular, volume very poor. There is a drop in blood pressure, elevation of temperature (because of the inflammatory process in the myocardium), and the individual is desperately ill and senses it. The electrocardiogram in most instances shows a coronary pattern with distorted and inverted T waves within twenty-four to forty-eight hours.

Status Angiosus. If coronary disease has as its basic pathology atherosclerosis (excluding those instances due to hypertension, syphilis and those of embolic origin), then several other premises follow quite logically, to wit: it belongs primarily to the later decades of life and it is progressive, culminating in some instances and in some individuals with a very marked limitation of physical and mental potentialities in a state of status angiosus. Here we are, in my opinion, dealing with a chronic progressive end result.

Now it must be quite apparent that the "outlook" of a patient with the arterio-sclerotic type of coronary disease depends to a very considerable extent on the stage of his coronary involvement, as determined by the degree of his underlying pathology. However, again ignoring statistical figures, I shall make the following broad statements (based upon personal experience in both the clinic and private practice).

I — The individual with so-called angina of effort who probably has had a closure of a coronary twig, with a minor, circumscribed myocardial infarction — of relatively small size, has a good "outlook" both as regards potential longevity and energy quotient. His physical and mental activities call for little if any curtailment. Certain types of occupation which demand unusually strenuous physical effort are naturally contraindicated, and are incompatible with well being and safety. And there are some exceptions, a minor percentage, however, which will demand restriction of even the average exertion essential to livelihood. However, the vast army of *early* or mild coronaries can carry on the average occupation with safety and euphoria. The same statement covers the matter of physical exercise. An individual who has played golf for decades, may continue to do so (on a flat course and under ordinary circumstances).

Walking (leisurely) and swimming, rowing, bowling, in a word — the ordinary types of physical exercise to which a patient has become familiar — are neither contraband nor hazardous. The more strenuous forms of exercise such as running, tennis, etc., are naturally not permissible.

The age of a given individual is another determining factor because the axiom "A man is not as young as he feels, but is as old as his birthdays," is sound.

What shall be the criterion to determine whether a given individual with early coronary disease is living within his safety zone? The answer is simple: — the presence or absence of

symptoms, and the earliest and most significant are chest pain and dyspnoea. The occurrence of either or both after effort condemn the effort. How long can this first stage coronary individual live? Five years? Ten? In my opinion, indefinitely.

So much for the moment concerning the early or first stage coronary individual, and we come to the patient who has had a clinically frank acute coronary occlusion, with myocardial infarction of considerable extent. What about his "outlook" and energy quotient?

In the first place, his *immediate* outlook is quite good, immeasurably better than we felt it was a few short decades ago. Gone is the immediate mortality rate of 25% or more of a very short time ago. Statistics depend on so many variables, and are therefore unsatisfactory, but surely the immediate outlook of the individual with an acute occlusion with infarction, if treated early, and adequately, is very promising.

After recovery from the acute insult, what is the long range "outlook" and the energy potential of such an individual who has suffered an acute infarction of appreciable size and extent?

The answer to this question is again dependent upon many variables, such as for example, (a) the age of the individual at time of onset, (b) the degree and size and location of his infarction, (c) the condition of his myocardium and his coronary arteries *prior* to his seizure, (d) finally, the blood pressure level, since plainly, a severe hypertensive has a more formidable problem.

Generalizing, however, I feel strongly that as a rule, we consciously or otherwise have an entirely too pessimistic outlook with the average patient. He feels not only that his years are pretty definitely numbered, but what is more regrettable, that he is from here on "fenced in" so far as his potential physical and mental activities are concerned.

In my opinion and in my experience, these premises are all unfair and erroneous. Countless thousands of individuals are carrying on energetically and efficiently both physically and mentally after an acute coronary occlusion with infarction — and they do so without undue fatigue, without coronary or heart muscle symptoms, and without any apparent hazard. If and when any of these symptoms appear, they have transgressed their 'safety zone' and must slow up.

In the older age group, individuals who have sustained an acute occlusion, not all, but an appreciable percentage, if they live long enough, because of their progressive arteriosclerotic pathology, develop a chronic coronary insufficiency (status angiosus).

Clinically, on inconsequential physical or mental effort they develop coronary or heart muscle distress, either chest pain or dyspnoea, and the electrocardiogram certifies chronic coronary and heart muscle changes. Such individuals are more narrowly circumscribed in their activities, but even they with caution and ample rest can and do carry on amazingly well and live far and beyond a life's expectancy accredited them a few decades ago.

In a word, the "Coronary Outlook" for individuals with an arteriosclerotic background, particularly in the senile group, have a more optimistic future in every sence than most of us seem to appreciate.

II — The embolic type of coronary disease! Here we are dealing, as a rule, with a youthful individual who owes his acute coronary insult to an embolus on the background most frequently, of a pre-existing rheumatic endocarditis. His "outlook" both immediate and mediate depends on several factors, but most important upon the extent or degree of his valvular involvement, and the resultant heart muscle distortion.

Since the mortality rate of rheumatic endocarditis per se is high and life expectancy is distinctly curtailed, this added complication is just another unfavorable factor. These individuals, because of their basic pre-existing pathology, are in my opinion narrowly circumscribed physically and their outlook in every sense not promising.

III — Luetic Coronary Insufficiency. This is a very special type of coronary disease, with a mechanical and if you will, an *extra* coronary cause for the clinical picture. The *basic* pathology of cardiac syphilis resolves itself around the aorta. Syphilitic heart disease is primarily an Aortitis. Syphilis involves the median layer and the intima of the aorta throughout its length and breadth from its origin within the heart to to its exit through the diaphragm (only rarely

does syphilis involve the abdominal aorta). The median layer, with its elastic tissue and muscle fibers bears the brunt of the attack, hence the frequency of aneurysm as an end result. However, the intima too is commonly involved, and the mechanism and explanation of the clinical picture of coronary insuffiency on a syphilitic background consists of a pouching of the intima of the aorta thereby reducing the coronary flow.

It is important to remember that coronary insufficiency aneurysm and even aortic insufficiency due to syphilis represent complications of syphilitic aortitis, and therefore speak for advanced pathology and not the primary cardiac invasion.

This fact materially influences the "outlook" for this type of coronary patient. His condition (unlike that of an individual with acute occlusion and infarction on an atheromatous or embolic background) is chronic. Accordingly the therapeutic measures, including a period of absolute rest, coronary dilator drugs, etc., are less if at all effective. Since this is so, we are limited in our management of this type of coronary disease. His "outlook" therefore is uncertain, variable, and unsatisfactory. Pain on effort is chronic, comes frequently, is apt to be of long duration and incompletely relieved by the usual measures. Since he usually develops no heart muscle infarction, dyspnoea is a less prominent subjective symptom than pain — until or unless he develops left ventricular insuffiency due to either his specific aortic insufficiency or a direct involvement of his myocardium.

However, while individuals with luetic coronary insufficiency due to blocking of their coronary mouths, are narrowed and circumscribed in their activities, they are able to carry on for an indefinite period of time.

IV — Hypertensive coronary insuffiency. Here the mechanism for pain and dyspnoea on effort consists of a forceful closure of the aortic cusps and a resultant pressure on the coronary arteries at their site of origin in the aortic ring. Quite plainly the "outlook" for such patients is variable and depends upon many factors such as the degree or extent of hypertension, the chronicity, and the response to treatment.

However, this type of coronary disease with periods of rest and curtailment of activities is compatible with not only years of life but often an amazingly generous energy potential.

In conclusion (and again with apologies for both the utter lack of statistical data and the substitution of generalities), I feel the coronary "outlook" for coronary patients, particularly those on an atheromatous background is good — is vastly better than most of us are wont to concede. True such an individual should be taught to live within his energy potential, should avoid the symptoms of coronary insufficiency (pain and dyspnoea) — but definitely should be helped to be less introspective and coronary conscious.

TUBERCULOSIS, A NEW POST WAR PUBLIC HEALTH PROBLEM

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Medical science with the aid of intensified public health service programs has, to a great extent, eliminated such diseases as diphtheria, smallpox, typhoid fever, and at the present time is waging a continuous war against whooping cough. These diseases have been placed in the category of preventive medicine. In the field of diseases in which we have known the specific causes for a long while, but have no definite immunologic procedures in combating, tuberculosis ranks as the number one killer and crippler of humanity, not only in this country, but throughout the world in general. This paper deals with the public health and early case-finding aspects of tuberculosis rather than the treatment of the disease.

Although the cause of tuberculosis was discovered by Robert Koch in 1882 and intensive campaigns for the control of tuberculosis have been in progress throughout the world for many generations, tuberculosis is still one of the major causes of death. In the year 1941 in the United States 109,320 cases of tuberculosis were reported with 58,159 deaths. Continuous tuberculosis campaigns have shown a steady decline in the incidence of fatalities from the disease, except in times of war when the incidence of the disease increases. (Table 1). During World War I the incidence of tuberculosis reported in-

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TABLE 1
DEATH RATE FOR TUBERCULOSIS, BY RACE:
REGISTRATION STATES, 1900-1940, EVERY FIFTH YEAR

Registration States	1940	1935	1930	1925	1920	1915	1910	1905	1900
All races:									
All forms	45.9	55.1	71.1	84.8	113.1	140.1	153.8	179.9	194.4
Of resp. system	42.2	49.9	63.0	74.1	99.8	122.6	133.3	157.1	174.5
Other forms	3.7	5.2	8.1	10.7	13.4	17.5	20.6	22.9	19.9
White:									
All forms	36.6	44.9	57.7	71.6	99.5	128.5	145.9	....	....
Of. resp. system	33.7	40.8	51.1	62.2	87.1	112.0	126.2	....	....
Other Forms	2.8	4.1	6.6	9.3	12.4	16.5	19.7	....	....
All Other Races:									
All forms	128.0	145.1	192.0	221.3	262.4	401.1	445.5	....	....
Of resp. system	116.6	130.5	170.3	196.7	238.0	360.7	393.7	....	....
Other forms	11.4	14.7	21.7	24.6	24.4	40.4	51.8	....	....

Source: Vital Statistics Rates in the United States 1900-1940
United States Department of Commerce, Bureau of the Census

creased almost one-third in most of the countries attacked by war. We likewise remember that a rise in the incidence of the disease occurred in this country following the last war. The care of tubercular patients has been one of the obligations of government to the veterans of the last war. Spillman[1], in a timely paper published in October, 1940, revealed its tremendous cost. He stated that "Tuberculosis during and after the World War has cost approximately 960 million to date in compensation, vocational training, insurance and hospitalization," and he further remarked that this cost "is a matter of public record, but it seems far from being a matter of common knowledge."

During the present war, because of the larger number of people involved and the larger geographic areas represented, in addition to the extended period of the war, tuberculosis has shown a marked increase. It will be impossible to obtain accurate statistical reports from these countries until several months following the close of the war. This national increase in tuberculosis will be more marked in the male sex except in the age group 15-24 years where the incidence is highest in the female sex. (Figure 2). The national figures regarding age and sex also correspond with the Illinois state figures by age, sex and race for the year 1940. (Table 3). It is evident from statistics avail-

TABLE 3
DEATH RATES FOR TUBERCULOSIS, BY AGE, RACE, AND SEX:
ILLINOIS 1940

	All ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
Tuberculosis (all forms):												
All races — both sexes	46.8	24.1	12.2	4.2	35.3	53.5	63.4	67.5	71.1	67.7	60.6	54.1
Male	47.3	17.1	13.7	4.2	27.5	56.2	82.1	99.7	107.7	94.7	74.7	49.5
Female	34.9	31.2	10.6	4.2	42.9	50.9	44.7	33.3	32.0	41.7	48.3	57.5
White — Both sexes	37.0	17.3	7.6	2.3	22.8	41.0	47.6	58.7	64.6	65.5	58.4	51.9
Male	46.5	8.0	7.0	2.5	16.9	41.8	61.1	87.7	97.5	91.6	70.1	51.4
Female	27.5	26.8	8.3	2.0	28.6	40.2	34.0	27.9	29.4	40.2	48.1	52.3
Other races—Both sexes	220.3	148.6	96.4	39.5	301.8	267.6	294.0	243.6	240.9	129.9	160.7	110.5
Male	270.9	182.6	141.4	36.7	271.7	325.0	394.2	334.3	368.2	181.9	300.3	0
Female	172.8	113.4	52.2	42.2	327.3	220.7	197.5	143.1	99.9	82.6	56.2	189.8

Source: Vital Statistics Rates in the United States 1900-1940
United States Department of Commerce, Bureau of the Census

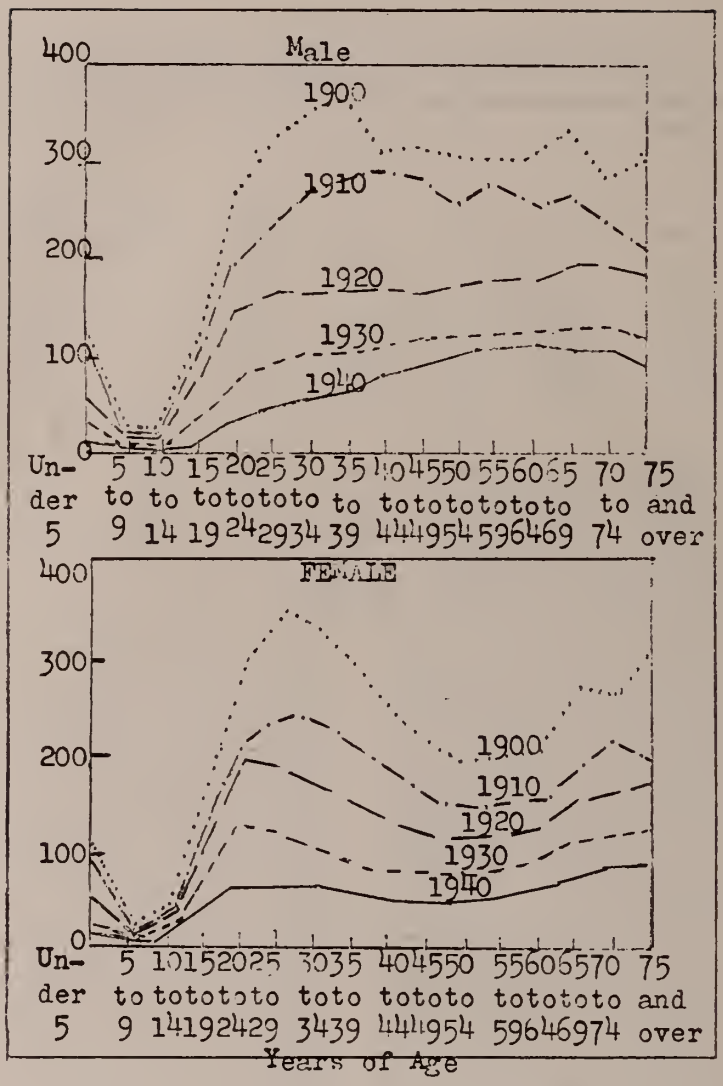


Figure 2. Deaths from tuberculosis per 100,000 population, by five-year age group and by sex, United States Registration Area, 1900, 1910, 1920, 1930 and 1940.

able in this country that tuberculosis is again on the increase.

In this paper New York State is used on a comparative basis with Illinois because of its type of population. Both states have one large city and many small industrial towns within scattered agricultural areas. New York, unlike Illinois, is one of the most progressive states in tuberculosis control work. The enclosed table (Table 4) shows the resident deaths and death rates per 100,000 population from all forms of tuberculosis in New York State, New York City and the rest of the state 1926-1943. It is evident that the steady decline in the death rate for New York State, exclusive of New York City, was interrupted by increases during the years 1942 and 1943. The rate for 1942 was 4.1% higher than for 1941, and provisional figures for 1943 show an increase of 3.6% over the 1942 rate. The number of deaths increased by 93 in 1942 and 85 in 1943. In New York City the rate decreased in 1942 but showed an increase in 1943.

Experience similar to that of New York state

TABLE 4

Resident Deaths and Death Rates per 100,000 Population, from Tuberculosis (all Forms) in New York State, New York City and Rest of State, 1926-1943

Year	New York State		New York City		Rest of State	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
1926	9889	83.6	6075	94.2	3814	71.0
1927	9226	76.7	5654	85.9	3572	65.6
1928	9371	76.6	5899	88.0	3472	62.8
1929	9092	73.1	5692	83.3	3400	60.7
1930	8761	69.5	5588	80.5	3173	56.0
1931	8384	66.0	5421	77.5	2963	52.0
1932	7826	61.2	5018	71.2	2808	48.9
1933	7715	59.9	5061	71.3	2654	45.9
1934	7413	57.2	4829	67.5	2584	44.4
1935	7265	55.6	4827	67.0	2438	41.7
1936	7477	56.9	5062	69.7	2415	41.0
1937	7171	54.2	4786	65.5	2385	40.3
1938	6403	48.1	4255	57.8	2148	36.0
1939	6353	47.4	4236	57.1	2117	35.3
1940	6095	45.1	4059	54.4	2036	33.7
1941	6111	45.0	4175	55.5	1936	31.9
1942	5976	43.7	3947	52.1	2029	33.2
1943	6282*	45.6*	4168*	54.7*	2114*	34.4*

*Provisional figures

has occurred in Illinois (Table 5) where the provisional death rate for 1943 showed an increase to 42.7 from a rate of 41.1 for 1942. The total number of reported cases in the first sixteen weeks of 1944 in Illinois was 11% higher than during the same period in 1943.

The State of Illinois, from all indications, should have a major tuberculosis problem because throughout the years Illinois has lagged behind other states in controlling tuberculosis. Table 6 shows the deaths per 100,000 population from tuberculosis in Illinois and the contiguous states:

TABLE 6

DEATHS PER 100,000 POPULATION FROM TUBERCULOSIS

ILLINOIS AND CONTIGUOUS STATES

	1930	1942	Decline
Illinois	63	41.7	34%
Indiana	68.1	36.7	46%
Kentucky	97.3	66.0	32%
Missouri	63.1	41.4	34%
Iowa	33.3	17.6	47%
Wisconsin	52.1	24.3	53%
Michigan	60.6	34.2	43%

TABLE 5

TUBERCULOSIS — CASES, DEATHS AND RATES — 1925 - 1942

STATE OF ILLINOIS

Rates (per 100,000 Pop.)

Year	Cases*	Deaths**	Cases	Deaths	Fatality
1925	13,999	5,526	197.2	77.8	39.4
1926	17,002	5,499	235.7	76.2	32.3
1927	14,622	5,482	168.1	73.5	43.7
1928	12,500	5,466	168.1	73.5	43.7
1929	12,255	5,246	162.4	69.5	42.8
1930	11,179	4,789	146.4	62.7	42.8
1931	10,423	4,799	136.0	62.6	46.0
1932	10,466	4,273	136.1	55.6	40.8
1933	3,708	2,138	85.6	49.3	57.7
1934	9,734	4,124	125.7	53.3	42.4
1935	9,911	4,075	127.5	52.4	41.1
1936	8,506	4,050	109.1	51.9	47.6
1937	9,064	3,995	115.8	51.1	44.1
1938	8,222	3,684	104.7	46.9	44.9
1939	7,752	3,608	98.4	45.8	46.5
1940	8,574	3,654	108.6	43.3	42.6
1941	9,410	3,474	118.5	43.7	36.9
1942	9,415	3,249	119.1	41.1	36.0
1943***	9,003	3,239	118.6	42.7	36.0

STATE EXCLUSIVE OF CHICAGO

Year	Cases	Deaths	Cases	Deaths	Fatality
1925	6,288	3,037	155.8	75.2	48.3
1926	8,498	2,969	208.2	72.7	34.3
1927	6,824	2,915	165.3	70.6	42.5
1928	5,415	2,808	129.7	67.3	51.8
1929	5,715	2,692	135.4	63.8	47.1
1930	5,061	2,551	118.8	59.9	50.4
1931	4,204	2,502	98.1	58.4	59.5
1932	4,601	2,265	106.8	52.6	49.2
1933	3,708	2,138	85.6	49.3	57.7
1934	4,154	2,186	95.3	50.1	52.6
1935	4,077	2,121	93.0	48.4	52.0
1936	3,430	2,029	77.7	46.0	59.2
1937	3,914	1,958	88.3	44.2	50.0
1938	3,499	1,717	78.5	38.5	49.1
1939	3,257	1,689	72.7	37.7	51.9
1940	3,212	1,741	71.4	38.7	54.2
1941	3,657	1,666	81.3	37.0	45.6
1942	3,540	1,522	79.8	34.3	43.0
1943***	3,430	1,524	80.3	35.7	44.4

Source of data: Educational Health Circular No. 59 Illinois Department of Public Health.

* Cases allocated to Residence

** Deaths to place of occurrence

***1943, Provisional figures

Table 7 shows the deaths per 100,000 population from tuberculosis in Illinois and other populous states:

TABLE 7
DEATHS PER 100,000 POPULATION FROM TUBERCULOSIS
ILLINOIS AND OTHER POPULOUS STATES

	1930	1942	Decline
Illinois	63	41.7	34%
New York	71.6	46.8	35%
Pennsylvania	61.9	43.0	30%
Massachusetts	64.0	37.5	41%
Ohio	64.1	40.9	36%
New Jersey	67.9	44.0	35%
Rhode Island	69.2	37.7	46%
Connecticut	61.1	35.5	42%

Every state that borders on Illinois has made more substantial progress than Illinois in cutting down the death rate from tuberculosis since 1930 except Kentucky. The Illinois rate in 1942 was only 34% below the rate of 1930. The least decline in the death rate among neighboring states was 32% for Kentucky. The reductions in other contiguous states were 34% Missouri, 43% Michigan, 46% Indiana, 47% Iowa, and 53% for Wisconsin.

Among those bordering states only Kentucky had in 1942 a death rate from tuberculosis higher than Illinois, 66.0 against 41.7. On the other hand, Indiana, Kentucky, and Missouri had higher rates in 1930 than did Illinois. In spite of considerably lower rates than Illinois in 1930, Iowa, Michigan and Wisconsin have experienced a further decline in their rates than has Illinois. This suggests that the rate in Illinois has not yet dropped to the point of significant diminishing returns through control efforts. As to Illinois, it may be observed that the death rate for the 101 counties other than Cook declined from 47.3 in 1932 to 30.4 in 1943, a reduction of approximately 36 per cent. The Cook County rate declined from 63.6 to 52.3, a reduction of only about 18 per cent. This indicates that the situation is more serious in Cook County than generally in Illinois. Illinois, the third largest state in the Union, has had the least appreciable decline of any densely populated state except Pennsylvania. The decline in Pennsylvania was 30% — the lowest in this group of states. All others experienced a decline of 35% or more. All of these populous states listed are highly industrialized and most of them have a greater density of population than does Illinois; these factors usually favor the prevalence of tuberculosis.

While mortality from tuberculosis in Illinois has continued to decrease, the downward trend has slackened considerably as compared with the decade between 1920 and 1930. On the other hand, there has been a noticeably upward trend in reported cases of tuberculosis since 1939. In that year, 7,752 cases were reported in the state. By 1942 the number of case reports had again reached 9,415. In 1943 there was a decline in notifications to 9003 which might very well have been the result of a curtailment in case-finding programs, due to war conditions. For the first sixteen weeks of 1944 case reports were up 11% as compared with the corresponding period of 1943.

The statistical evidence shows clearly, therefore, that progress in the control of tuberculosis has been checked and is now virtually at a standstill.

The most important weakness in the control program in Illinois is a shortage of sanatorium facilities. According to the 1944 American Medical Association Hospital Directory there is a total of 4,249 public and private tuberculosis sanatorium beds in Illinois exclusive of Veterans Administration Facilities. Leaders in the field of tuberculosis control have set as a minimum figure two beds for every death occurring in the state. A moderate figure of 2½ beds-per-death and an optimum figure is 3 beds for every death. From the total deaths in Illinois on a 2 bed-per-death figure there ought to be, at least, 6,800 tuberculosis beds available for the care of tuberculosis patients within the state. These figures mean that we should have at least 2,500 more beds made available to us during the continued fight against tuberculosis in the state.

The public health problem in tuberculosis is to discover the case early enough during the course of the disease to treat it as soon as possible and return the individual to his occupation. To accomplish this, tuberculosis must be discovered during the minimal stage, where there is a chance for complete recovery. Table 8 shows the percentage of sanatorium patients living five years after discharge according to the stage of disease upon admission to the Rutland State Sanatorium, 1931, and also the group of 75 sanatoria in 15 states in 1938.

TABLE 8 — Percentage of sanatorium patients living five years after discharge, by stage of disease on admission, Rutland State Sanatorium, 1931, and group of 75 sanatoria, 15 states, 1938.

	Stage of Disease on Admission Per cent	Living Five Years After Discharge Per cent
RUTLAND STATE SANATORIUM 1931		
Minimal	15	83
Moderately advanced	33	59
Far advanced	52	21
COMBINED SANATORIA 1938		
Minimal	14	75
Moderately advanced	38	60
Far advanced	48	33

It is a regrettable fact that 25 per cent of the cases admitted to sanatoria which accept patients regardless of their condition are found to be so far advanced that they are beyond help and die while under treatment. Unfortunately, it is a country-wide experience that of all cases admitted to sanatoria, only 10 to 15 per cent are in the minimal stage when the chance for complete recovery is best. This condition has continued for years without change and will not improve until we make Roentgen examinations of supposedly well persons a community procedure. When clinical symptoms of cough, sweating, loss of appetite, and weight appear, it is usually found that the disease has progressed beyond the minimal stage.

What type of x-ray surveys have become practicable in early tuberculosis case finding programs? We know that x-raying of the population using the 14 x 17 inch film is costly. The Selective Service System with its examination of over 11 million men for the armed services has given us the answer. Surgeon General Thomas Parran,[2] speaking on "The Expanding Field of Public Health and Preventive Medicine" before the Council on Medical Education in Chicago on February 14, 1944, stated:

"The expansion of the mass tuberculosis case finding program, using the small film x-ray technic, has important implications both for medical education and for medicine. Reversing previous experience, 60 per cent of the cases uncovered in x-ray surveys are in the minimal reinfection stage as compared with approximately 10 per cent of the cases which came to treatment without intensive x-ray case finding. Formerly 90 per cent of the tuberculosis patients were in need of hospitalization by the time a diagnosis was made. Improvement in methods of treatment now make it possible for the majority of patients in the early stages to be treated successfully without hospital care. Through hard necessity we have proved the value of new technics for the control of venereal diseases, tuberculosis, and malaria."

Two systems of mass x-rays have been developed; one using the 35 mm. film, and the other using a 4 x 5 inch film. Experience has shown that there is less chance for error with the use of the 4 x 5 film.

The New York State Health Department bulletin, Health News,[3] gives the following report on chest x-ray examinations at induction stage — "Although the primary purpose of this procedure has been to exclude from service persons with pulmonary tuberculosis, it has at the same time resulted in a remarkable demonstration of the tremendous value of mass x-raying in the discovery of tuberculosis in the civilian population.

"Upstate New York's share in this gigantic project has been the provision of a chest x-ray examination for about one-half million residents of that area during the past three years at the armed forces induction stations in the State, including the one in New York City.

"On the average, about twelve out of every 1,000 persons x-rayed have been either deferred or rejected for service because of x-ray evidence of tuberculosis. On this basis, about 6,000 upstate residents have been so disqualified in the period mentioned.

"However, because of rigid army standards for acceptance, not all of those disqualified have pulmonary tuberculosis of the reinfection or potentially serious type. Only about two-thirds have definite reinfection lesions; the remainder is made up of persons with suspected tuberculosis, with healed tuberculosis of the primary type, and others.

"Of those with definite reinfection lesions, only about one half are considered as having active tuberculosis at the time of the induction station examination. In other words, about a third of all those disqualified because of tuberculosis are classified as active cases on the basis of the initial x-ray. This, in turn, represents

about 0.4 per cent of the total number examined.

"It is to be expected that among the hundreds of tuberculosis cases diagnosed at induction stations, a certain number are already known as such as a result of previous diagnosis. Records of the State Department of Health indicate that slightly less than 20 per cent of the persons with definite reinfection lesions have previously been reported as cases of tuberculosis. Thus, the fact that more than 80 out of each 100 cases discovered have not been previously known to have the disease is further evidence of the value of mass x-raying in tuberculosis case-finding.

"Invariably, an important by-product of all mass chest x-ray projects is the discovery of nontuberculous chest conditions, such as pneumonia, pleurisy, heart disease, lung tumor, and others. Two out of each 1,000 persons examined at the induction stations have been disqualified because of x-ray evidence of such abnormalities. In many instances, previously unsuspected serious disease has been thus discovered in the presymptomatic stage.

"There can be no doubt that this x-ray service by the armed forces will have a lasting effect on the health of the people of New York State. It is an eloquent example of the great potential scope and value of mass chest x-raying in the public health program of today and of the future. As such, it points clearly to the need for extending the use of this medium of case-finding more and more to other groups of the adult population."

It is hoped that the favorable Selective Service experience in tuberculosis case-finding work will spread throughout the entire population in an eventual battle to wipe out tuberculosis.

The good work begun by the armed forces at time of induction, should be extended to include an x-ray picture of the chest on discharge from the armed forces.

The armed forces should likewise distribute to the states and full-time county and city health department all x-ray supplies necessary to carry on this work as soon as they have no further need for the equipment.

The full cooperation of the medical profession is necessary in the eradication of this disease. Cases should be reported promptly so that contacts can be examined and controlled.

A recent New York State study[4] disclosed that during the years 1940-42 about 21% of the fatalities from all forms of tuberculosis were not reported before death. In addition, about 17% of the total were reported within less than 3 months before death and another 6% within 3 to 6 months before death. In other words, it was pointed out, about 44% of the deaths either were not reported at all during life or were reported a relatively short time before death."

The cost of any program is most essential toward its success. Since Congress passed the Selective Service act, about 12 million chest x-ray examinations have been made at induction stations resulting in 120,000 disqualifications because of chest conditions. In round numbers, ten persons are disqualified for every 1,000 examined. An x-ray survey of 3 million industrial workers, including persons of both sexes and those in the older ages, uncovered 20 cases of tuberculosis per 1,000 workers examined.[5]

In the old method case-finding program using 14 x 17 inch film at 70 cents a film, discovering one case for every 100 examined, the cost of finding an active case would be $70.00. With the use of the 4 x 5 film at five cents a film the cost is approximately $5.00. When a questionable diagnosis is recorded on 4 x 5 film, a few may have to be checked by larger size film or by 4 x 5 stereoscope film. For many years intensive study has also been devoted to the use of B C G vaccine in the control of tuberculosis. At the present time workers in this field are optimistic because of the results they are observing in their control study group. This may hold a promise of eventually controlling the disease by vaccination of all in the early days of life as done by Ferguson[6] among Canadian Indians where the fatality rate was reduced by 75% in one generation.

SUMMARY

Tuberculosis is definitely on the increase and becomes one of the major Post-War Public Health Problems. Illinois, because of a lack of an intensified case-finding program is behind its neighboring states, and other populous states in controlling tuberculosis. Tuberculosis is still second in importance as a cause of death among men 20 to 34 years of age, while the highest incidence of morbidity from tuberculosis is still

in the age group from 15 to 29. Tuberculosis control programs should begin with the age of puberty where there is a marked reported increase in the incidence of the disease. Mass x-rays of the population using the small film, preferably the 4 x 5 inch, presents an economical way of finding tuberculosis. It is essential that cases of tuberculosis be discovered during the minimal stage so that they may be returned to their normal life. Tuberculosis beds should be made available for the necessary hospitalization of cases.

CONCLUSIONS

Tuberculosis, at the present time, is usually not diagnosed until clinical symptoms of cough, loss of weight and night sweats appear. In this stage about 90 per cent require hospitalization, while a high percentage will never again become wage-earning and self-supporting individuals.

The modern public health program calls for mass miniature x-ray case finding among the general population, beginning at the age of puberty. Examination of millions of Selective Service registrants by this method has revealed the presence of tuberculosis in about 12 in every 1,000 x-rayed. 60% of the cases found were of minimal stage where hospital treatment was not necessary. 80 out of each 100 cases so discovered had no previous knowledge of having had tuberculosis.

The modern Public Health program not only calls for mass x-raying of the population, but for adequate hospital facilities for all open cases, and a modern central registry system for periodic x-ray examination of all contacts to known cases of the disease. This follow-up should continue for a period of several years after exposure.

BIBLIOGRAPHY

1. Spillman, R.: The Value of Radiography in Detecting Tuberculosis in Recruits. J.A.M.A. **115**: 1371-1378, (Oct. 19) 1940.
2. Parran, Thomas: The Expanding Field of Public Health and Preventive Medicine. J.A.M.A. **124**: 933-934, (March 25) 1944.
3. Mikal, Edward X.: Chest X-ray Examinations at Induction Stations. New York State Department of Health. "Health News" Page 24, (Feb. 7, 1944).
4. New York State News: "Time Between Tuberculosis Reporting and Death." J.A.M.A. Page 938, (March 25, 1944).
5. Mikal, Edward X.: Health News, New York State Department of Health. Page 59, (April 3, 1944).
6. Ferguson, R. G.: Recent Advances in Tuberculosis Control. Canadian Journal of Public Health. **35**: 109-112, (March 1944).

DISCUSSION

Dr. Maxim Pollak, Peoria: I listened with a great deal of interest to the paper. There are a few things I would like to add to it and emphasize. One important thing which has been brought out is the difference in the decrease of tuberculosis mortality in the decade from 1920 to 1930, and from 1930 on.

We know that in Illinois we have about twenty-three public tuberculosis institutions; according to the Glackin law, the maintenance of tuberculosis sanatoria is left up to the cities and counties. We have three municipal institutions in the state; Chicago, Peoria and Rockford, and twenty county institutions. Most of the county institutions have been established in the decade from 1920 to 1930; after 1930 we have had only four new institutions established. The establishment of tuberculosis sanatoria has a great deal to do with the decrease of mortality.

The second important fact which has to be mentioned is that most of these institutions are in the northern and central part of the state. In the southern part of the state, south from Quincy, there is only one institution, one county tuberculosis sanatorium. It could be shown by statistics that the morbidity and mortality rate is far more favorable in the northern and central part of the state than it is in the southern part.

Now as to the question of increase in case reports, the selective service examinations are the greatest case finding survey as yet undertaken. In Illinois, up to April 1, 1944, over 6,000 men have been rejected by the Selective Service because of tuberculosis. Naturally, not all of these are suffering from active tuberculosis. Because Selective Service regulations are rather strict, men are rejected who show only extensive calcifications. The increase in case reports, to quite a great extent, is explained by this case finding survey.

In addition to that, the great pool of tuberculosis cases in mental institutions is better taken care of today than it has ever been before. Perhaps some of you know that the State Welfare Department has established since 1938, or rather since 1941, its own tuberculosis control program, and extensive tuberculosis control work in mental institutions is going on.

One more point, as far as mobile units are concerned, I am not here to defend the State Department of Health, and I do not belong to it, but Illinois has a mobile unit. The State Department of Health, with the help of the Federal Government, has purchased a 35 millimeter mobile unit and is loaning it to communities for x-ray surveys of industrial workers. To date, this unit has been used in Rockford and in LaSalle County, and at present is being used in Peoria, where we are just starting a survey of industrial workers. This unit has already x-rayed over 25,000 industrial workers.

Naturally many more things in tuberculosis control can and should be done, but as far as the mobile unit is concerned, the State Department has made a very good start, which Cook County could readily follow.

Dr. E. T. McEnery, Chicago: I think this paper

should be discussed, because Dr. Piszczek has brought out one point that one big factor in all these surveys has been the cost associated with it. With the mobile units you can do a mass survey with very little cost. You can take these x-rays and there is no return, and it lets you handle a large number of patients.

I think since his paper shows the cost is five or ten cents, I feel as private physicians we should try to reduce the cost of x-rays. The cost of x-rays has been prohibitive in many cases, because the charge is anywhere from $5.00 to $10.00. If you could reduce that cost to at least a dollar, the people would take more x-rays. If the Federal Department can do it, why cannot private physicians do it? We talk about state medicine, federal medicine; all we do is talk about it. Why do not the private hospital and the private physician do something about reducing the cost of these x-rays?

Dr. E. A. Piszczek (Closing the discussion): Regarding the single Illinois State mobile tuberculosis unit, case finding by this single procedure is like spitting in the ocean. These mobile units take about four or five hundred pictures a day or about 2000 a week or approximately 100,000 a year. I think in this Cook County area we ought to have, ten mobile units going all the time. The cost is not very high compared to the results we could get.

I think public health workers will not be satisfied until they find at least fifty per cent of the tuberculosis in the minimal stage where the patient can be kept at home in his own private environment and under the direction of his private physician. That is our ultimate goal.

Dr. McEnery stressed Mantoux testing. I think our future plans will be a system called a large screen and the small screen. The large screen will be x-raying all adults for tuberculosis. The small screen will be skin testing the children for tuberculosis. I think, Dr. McEnery, we can to some extent limit, almost, the tuberculosis in the younger age group to direct contacts to somebody that is older, in the same family.

For ten years, under the Chadwick study in Massachusetts, they found it was not very profitable to go looking for active cases of tuberculosis in children. It is all right to do a Mantoux test, and if it is positive follow through the family and find out who has tuberculosis. That is how our tuberculosis meningitis cases are found, from active cases. At the present time positive tuberculosis tests are on the increase. In Illinois Research Hospital they had a recent marked increase in the number of children who have been admitted with positive manifestations, designating there has been exposure somewhere down the line.

In the Cook County Hospital for the first time in a good many years, they have had three children at the same time, with Potts Disease in the back, indicating there are many open cases exposing young children.

In any public health program, cost is very essential, and our goal in the state of Illinois, should be that 25% of the population, perhaps 35%, should have a miniature x-ray every year. It is good education, good health education; it makes the person conscious there is such a disease as tuberculosis and pays many dividends to the family physician, in closer co-operation between the patient and the family physician.

As I said, we should not give up until we find at least 50% of all tuberculosis cases in the minimal stage, where we can do something right at home. At the present time we have patients in Oak Forest Sanatorium that have been there since 1912 — thirty-two years, in an institution, never have gotten out, and they will stay there until they die; and so it is with many of our patients that go into our tuberculosis sanatoria today; they are usually there until they die.

It has been estimated that the average cost to the taxpayer, from the time the patient enters the tuberculosis sanatorium until he dies, is about $20,000 per patient.

If we can cut that down in half, by finding 50% of the cases in the minimal stage, we are saving a lot of money to the taxpayers.

THE CONTROL OF TUBERCULOSIS IN WAR TIME

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Simultaneously with the war against the Axis, the United States extended its fight against tuberculosis on an unprecedented scale through the radiographic chest examination of every selectee who comes before the Induction Boards. It has been estimated that by the end of 1943 in the course of these examinations 20,000 cases of active tuberculosis have been discovered, who are in need of sanatorium care.

Because Selective Service Regulations require the rejection of individuals with extensive calcification in the lungs in order that they may be protected from a possible reactivation of their disease while in service, not every selectee rejected because of tuberculosis is suffering from active disease. Hence, the rejected men need further study and advice concerning their condition.

In Illinois, through the cooperation of the State Selective Service System, the Division of Tuberculosis Control of the State Department of Health, the Illinois State and local Associations and the various public sanatoria, Medical Advisory Board No. 39 has been organized for this purpose.

Presented before the Section on Medicine, 104th Annual Meeting, Illinois State Medical Society, Chicago, May 16, 1944.

According to a statement on April 1, 1944 of Mr. W. P. Shahan, Executive Secretary of the Illinois State Tuberculosis Association and of the Downstate Section of Medical Advisory Board No. 39, "In down state Illinois there have been 6,267 men rejected for the defect of tuberculosis. The office of the Secretary has referred the names of 2,991 men to the members of the Board for reexamination and 1,136 men to nurses cooperating with the Board in counties where no sanatoria are maintained. In counties where there are no nurses and no doctors who are members of Medical Advisory Board No. 39, we find that there are 1,807 men. We hope to work out an arrangement within the next few weeks in order to take care of those names who are referred to no one."

Of the 4,127 men referred for examination, 259, or 6.2 percent, have moved out of the State before they could be examined; 85, or slightly over 2 percent, refused reexamination; 32, or less than 1 percent, have enlisted in some branch of the service irrespective of the fact that they have been previously rejected; and 2,482, or 60.1 percent, were reexamined.

Of the 2,482 men reexamined, 1,691, or 68.1 percent, are totally unfit for military service. However, 546, or 21.9 percent, are fit according to the opinion of members of the Medical Advisory Board, but not according to army standards, and 245, or 9.8 percent, are fit according to army standards, but for some reason or other, were not so classified by the Induction Board. Of the entire group examined, 248, or 10 percent, were diagnosed as suffering from active pulmonary tuberculosis and in need of sanatorium care. Records indicate that most of them have received such care; 8 of these active cases, or 3.2 percent, have died.

In our own city during the years 1942 and 43, 115 selectees were rejected because of tuberculosis. Of these, however, only 27, or 23.4 percent, were suffering from active disease. Of the 27 active cases, 19, or 70.3 percent, were minimal; 4, or 14.8 percent, were moderately and 4, or 14.8 percent, far advanced. One of the latter died about six months after his admission to the Sanitarium. Thus, the Induction Board examinations constitute the greatest tuberculosis case finding survey, as yet undertaken.

It must be regretted that the history of successfully arrested tuberculosis is not considered as a cause for rejection. Thus it may happen that the years spent in following the cure on the part of the selectee and the cost spent, most often from public funds, on this cure, may readily be jeopardized when such selectees are inducted. Fortunately, however, it has been our experience that the situation was easily and promptly remedied when such cases were brought to the direct attention of the Surgeon General.

It is also regrettable that no follow-up service has, as yet, been established for women rejected at the examinations for the various women auxiliary forces. No doubt that in the course of these examinations, too, a significant number of tuberculosis cases were discovered.

Notwithstanding the excellent selection, by December 31, 1943 "the Veterans Administration had adjudicated the claims of 4,858 enlisted men" who have been discharged from the various services because of tuberculosis (Long and Al. Journal A.M.A., V. 124: 14, April 1, 1944).

In order that the War Production front at home be protected from tuberculosis, the U. S. Public Health Service has instituted its case finding surveys in the Governmental War industries, the country over. It is estimated that by the end of 1943, 2,000,000 such examinations have been made and 5,000 cases of active pulmonary tuberculosis so discovered.

Prompted by the activities of the U. S. Public Health Service many of our State Health Departments, local and state tuberculosis organizations have established their mobile x-ray units and are engaged in the survey of the industrial workers. In Illinois the Division of Tuberculosis Control of the State Department of Health has established a 35 mm. mobile x-ray unit and at the joint request of the local medical societies, tuberculosis sanatoria and tuberculosis associations makes it available for industrial surveys. Thus far such surveys have been conducted in Springfield,. Rockford and LaSalle County, and one is in progress at present in Peoria. Over 20,000 industrial workers have so far been examined and a goodly number of active cases found. The cooperation received at the various industrial plants on the part of the management, as well as the workers, is excellent. The examinations are conducted in the plant and on the company's time.

The medical departments of the large industrial plants are usually equipped with an x-ray department and preplacement chest x-ray examinations have become a routine procedure with many. Scattered studies published from diverse industrial health departments show a case rate of 0.5 to 1.5 percent. The U. S. Public Health Survey rate is 1.0 percent.

The activities enumerated have opened a new epoch in the fight against tuberculosis. They can come to fill fruition, however, only through the fullest cooperation of the family physician. There is a distinct need for a greater awareness of the asymptomatic active pulmonary tuberculosis on the part of the general practitioner. What is the use of discovering early tuberculosis, when the patient at the advice of his family physician refuses to undergo sanatorium care, because he is feeling well, able to go on with his work, and his physician upholds his contention? Such cases are not infrequently on the record. Tuberculosis is a dangerous disease, no matter how insignificant the lesion may seem when discovered on the x-ray of an apparently well individual.

Fear has been expressed repeatedly that under the strain and stress of the war there will be an upward turn in tuberculosis morbidity and mortality. As yet, however, the mortality curve continues its downward trend in most localities.

In our institution we have found, however, that there is a significant decrease in the relative occupancy of beds in the women's division at the same time when the percentage of male patients has increased, due to the relatively large number of patients discovered by the Induction Boards and other surveys. We have also noted a distinct change in the source of referral of our patients. Last year for instance, of the 92 active cases discovered, only 41, or 44.5 percent, were referred to us by the practicing physicians. Had we waited until all those who suffer from active tuberculosis reported to their physicians for advice, we would have missed more than half of our active cases. Manifestly the present practice of advocating that patients visit their doctor only when seriously ill, and the increased patient load our over-burdened family physicians have to carry, are not conducive to proper tuberculosis control.

Efforts must, therefore, be made to counteract this harmful trend and prevent the deterioration of the hitherto favorable results in tuberculosis control. The answer to the how? is obvious. Instead of waiting until the tuberculosis patient shows up voluntarily in his doctor's office, the patient must be searched for among the apparently well individuals. In other words, tuberculosis surveys must be instituted. It is unfortunate indeed, that in many quarters of the profession the activities of our public sanatoria and voluntary tuberculosis associations are looked upon as the practice of socialized medicine, particularly so in reference to case finding surveys.

In reality nothing can be further from the truth. The technique of tuberculosis surveys is a genuine contribution of American Medicine to our modern therapeutic armamentarium. It has been developed through American ingenuity and resourcefulness by American doctors, whose chief interest lay in the eradication of tuberculosis. It has been recognized from the very beginning of the organized fight against tuberculosis that the combat of tuberculosis cannot be left to the individual patient, but must be conducted through communal efforts, as was the fight against typhoid and malaria for instance. It is due to the effective work of the leaders of the medical profession that from public funds sanitary sewage disposal plants were constructed, stagnant water pools drained and other anti-mosquito measures instituted until typhoid and malaria have become practically extinct. These conquests over disease represent some of the greatest achievements of modern medicine and enhance the confidence of the public in medical practice with its consequent rewards. One can safely predict that the present methods of tuberculosis control will lead to similar results. Hence, the plea for the active support and participation of organized medicine in these efforts.

In the fight against tuberculosis every practicing physician should play a leading role. The routine tuberculin testing of every patient and the chest x-raying of every positive reactor would lead to some surprising results. Mass surveys of large population segments in various parts of the country have discovered from one-half to one percent active cases. Surveys conducted in various hospitals yielded around 1 to 2 active cases per 100 admissions. It is safe to assume, therefore, that every one of us in his

own practice could duplicate these results.

Tuberculin for such testing is made available in many communities by the tuberculosis associations or sanatoria. The x-raying of positive reactors who cannot afford this expense can also be done by these organizations free of charge to the patient. The miniature x-ray film has made this procedure far less expensive than was the case heretofore.

For some unexplainable reasons, by and large, sputum examinations are resorted to only if and when tuberculosis is definitely suspected. The routine examination for tubercle bacilli in every instance when a patient expectorates would also lead to many unexpected discoveries.

It has become fairly general to x-ray the chests of patients who are suspected of having pneumonia. A final x-ray check-up of these patients when their disease has apparently subsided would also disclose a significant number of tuberculosis cases.

Premarital examinations have been made obligatory by law. The inclusion of a search for tuberculosis in these examinations would disclose not only a goodly number of cases of tuberculosis, but would prevent tuberculous parents from propagating their disease to their offspring. The same can be said of prenatal examinations.

Much can and has been accomplished in tuberculosis prevention by the introduction of mass tuberculosis surveys in diverse population groups as has been pointed out above. These surveys, however, should be instituted on the basis of sound principles and considerations.

Here first of all we would like to mention the survey of nurses and hospital personnel in general. Tuberculosis must be considered as an occupational disease as far as nurses and hospital personnel are concerned because the morbidity and mortality rates of tuberculosis among nurses, interns and other hospital personnel is exceedingly high. This could be distinctly lowered by the systematic search for tuberculosis in these groups. Not only that, but tuberculous nurses and interns can readily transmit their disease to the patients they attend. Hospitals have a moral and legal responsibility to prevent such an occurrence. In states which have an Occupational Disease Act on their statutes, including Illinois, hospitals could reduce the insurance claims against them, which are increasing in numbers as time goes on. Industry has learned from experience that the introduction of health protecting procedures is paying high dividends, but the sixth largest industry in the country, namely hospitals, have barely scratched the surface as yet, although they have the necessary equipment and personnel available on their premises.

Little consideration is being given at present to the fact that our old population groups represent a distinct source for tuberculosis infection. Yet the morbidity and mortality rates of the old are considerably higher than of the young age groups. Last year for instance, in Peoria, 23.5 percent of the people who died of tuberculosis were 60 years old or older, and the mortality rate in the age group of 45 years and older was 60.8 per 100,000. Some way could be found, we believe, to require that the old age pensioners be systematically examined for tuberculosis.

Patients of out-patient departments and clinics and relief clients represent another important source of tuberculosis cases. Thus, last year a survey of the patients of our St. Francis Community Clinic, yielded 4.3 percent active cases of the tuberculin positive reactors, and 1.5 percent of the clients of our Relief Office were found to be suffering from active pulmonary tuberculosis.

In war time the search for active tuberculosis among our civilian population distinctly aids our all-out war efforts. The prevention of tuberculosis protects our armed forces, the home production front and the oncoming generation alike. Organized medicine and its every individual member, each according to the sphere of its influence, and activity, must take a leading role in the combat of this endemic disease. The present generation has conquered many an epidemic disease and is handing over as unfinished business to the next, the conquest of tuberculosis. The tools, equipment and technique at our command are adequate for a successful fight, if the medical profession as a whole takes the leadership in their full and intelligent utilization.

DISCUSSION

Dr. Henry Sweany, Chicago: Unfortunately I did not hear all of Dr. Pollak's paper, but through his kindness I was able to read the manuscript before I

came to the meeting so I know very well what he said, and I shall make a few comments.

We all are familiar with some of the work that Dr. Pollak has been doing on finding tuberculosis in our State institutions. In his present paper he has presented a most pertinent plan with regard to the handling of tuberculosis in general. This problem is being revealed now by many of our organizations, especially those that have to do with the armed forces.

There is nothing nearer to my heart than this question of what to do with the tuberculous individual found by the various service organizations as well as those who will be found by future investigation. Let me applaud his recommendation, therefore, that this is the doctor's golden opportunity.

In this connection it should be remembered that tuberculosis has changed over the past forty years. There was a time when the diagnosis was made after the condition was so far advanced that little treatment could be given. Such a person was considered by the lay people and by many doctors as hopeless, as a patient for whom nothing could be done. During the last few decades the situation has changed from this passive type where at the most only rest could be given, to one where there is more active treatment to be given, such as collapse therapy, surgery of the lung with rest in bed.

The change in diagnostic facilities has been phenomenal. Fifty years ago tuberculosis was recognized only by the last symptoms: chronic cough, loss of weight, elevated temperature, flushed face. Then the discovery of the tubercle bacillus came along, and then the x-ray, and more recently the fluorograph units and tuberculin studies by means of which we are finding the early lesions.

Tuberculosis is now a disease in which every doctor should become interested in helping to find if not helping to handle, because he occupies the best vantage point. It has been estimated that every person sees a doctor about once in three years, so the doctor is the man who will see all individuals over a period of three to five years, and because of this he should be able to spot the disease in its earliest stages. Douglas has found that in his surveys in Detroit 75 per cent of the cases were found by the doctor in his private practice — although mostly in the advanced stages.

I would amplify the plea that Dr. Pollak has made that we as physicians accept our responsibility and go out and try to find this disease as early as possible wherever it is to be found and report it to the Health Organizations, who will handle it from then on.

Men returning from combat areas who have been unfortunate enough to contract tuberculosis will not take kindly to hospitalization and other restrictions when their ambition for years has been a return to normal living. To provide proper treatment for these men as well as protection for their families will be one of the difficult medical and social problems facing those responsible for tuberculosis control. A. J. Chesley, M.D. and D. A. Dukelow, M.D., Minn. Dept. of Health.

NEUROLOGICAL SYMPTOMS OF INFECTIOUS MONONUCLEOSIS

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More than fifty years have elapsed since Pfeiffer[1] described the first case of infectious mononucleosis, under the term "glandular fever." He described a mild disease of children, occurring pandemically and in epidemics, characterized by enlarged cervical glands, red throat and enlarged liver and spleen. For thirty years after Pfeiffer's first description of this disease, this concept persisted. In 1920 Sprunt and Evans described a peculiar blood picture in cases occurring in young adults[2], which otherwise fit the description of Pfeiffer. The diagnosis, however, remained rather uncertain until 1932 when Paul and Bunnell[3] described a peculiar property of the blood of these patients. They found that the blood contained antibodies which had the power to agglutinate sheep cells. The widespread adoption of this test, with the refinements offered by Davidson and Walker[4] and others[5, 6, 7, 8, 9, 10, 11, 12], has aroused tremendous interest and a very rapidly growing literature on the subject.

Incidence. — The actual incidence of this disease is difficult to estimate. One thing is definite — it is much more common than it has been thought to be. The case reports come almost uniformly from hospital cases, it being particularly common among interns, nurses and hospital personnel. Whether or not it is actually more common in hospital groups is difficult to say, but it may be suspected, that the routine blood work done in hospitals has established the diagnosis in this group and that it probably would have been missed had the same cases been seen in their homes.

Certain it seems that the greatest incidence is among the young adult group. Rarely does one see cases beyond the age of 35. It has been suggested that it is more common among those leading a rather sedentary existence.[13, 14] The relationship between occupation and contagion would seem to us to arise solely from opportunity of contact.

Etiology. — The cause of infectious mono-

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nucleosis is not yet known. In general there have been three causative organisms suggested with no convincing proof for any.

1. Fuso spirochetal organisms of Vincent.

The very common finding of spirochetes and fusiform bacilli in smears taken from the throats of patients with an exudative pharyngeal type of infectious mononucleosis has led to the obvious conclusion that here was the cause. In this connection we found that in the last fifteen cases of the pharyngeal or anginose variety of infectious mononucleosis studied in St. Luke's Hospital in Chicago, spirochetes and fusiform bacilli were found without exception whenever direct smears were made. Throat cultures, in cases with sore throats but no exudate, revealed a variety of organisms, perhaps the most common being a variable percentage of the hemolytic streptococcus. However, the negative throat smears, in cases where no sore throat existed, casts serious doubt on the validity of the arguments of those who argue for the fuso-spirochetal origin of this disease. The successful reproduction of this disease, or at least the reproduction of a similar blood picture in rabbits, by the injection of tonsillar material and glandular tissue containing fuso-spirochetal organisms, is not valid evidence.[15] These same tonsils or glands may contain other causative agents of a more specific nature.

2. Organisms of the Genus Listerella Monocytogenes have gained considerable favor in recent years as probable etiologic agents.[16] Nyfeldt[17, 18] reported the recovery of this organism in the blood of patients suffering from infectious mononucleosis. However, this has lacked confirmation by other workers and recently Janeway and Dammin[19] completed a study of the relationship of the organisms of the Genus Listerella to the disease as studied by the agglutination reaction. Studying antibodies against these organisms, they failed to find significantly higher titers in the blood of patients suffering from infectious mononucleosis than were contained in the blood of patients with a variety of other ailments, and the blood of normal controls.

3. This brings us to the most recent idea concerning the etiology — the concept that the disease is of virus origin. The arguments for this concept are at present time rather vague and ill-defined and perhaps are not as yet out of the "opinion" class. Nevertheless, as our understanding of the scope of virus diseases broadens, more and more is one forced to the idea that here, too, a virus is the offending agent. The respiratory origin of the disease, the negative blood cultures with ordinary culture media, the ability to transmit the disease by injecting that same blood into animals[20], the striking similarity between this disease and influenza, the lack of effective response to the sulfonamides[21] — these, and many other bits of evidence, all point to the virus origin of the disease. As improved methods of virus study are made available, one may anticipate the proof of the virus etiology of infectious mononucleosis to follow soon after.

Pathology. — The pathology of this disease has been studied quite extensively as far as blood and lymph gland changes. The total number of white blood cells is generally increased, although a few cases have been reported of a decrease in the total number. There is a relative and absolute increase in the number of lymphocytes, most of which are atypical. Total counts of 12,000 to 18,000 are common, the percentage of lymphocytes in some cases rising as high as 80 or 90 percent. There is a secondary neutropenia. Basophilia in the protoplasm of the lymphocytes gradually replaced by an azurophile granulation is typical. The lymphocytes are definitely not normal cells in most instances. Some confusion has arisen between this disease and the acute leukosis and myelopathies.[23, 24] Sternal puncture studies do not disclose bone marrow involvment[25, 26] in this disease, but a myelocytic condition which Leitner[28] attributes to the interference with cell maturation because of splenic hyperfunction. This same author states that the splenopathic interference also accounts for the leukopenia and granulocytopenia of the second phase of the evolution of the disease.

During the course of the disease the blood Wassermann and Kahn may become positive. This rarely persists beyond the 4th week but, no doubt, lack of knowledge of this fact has lead to many tragic errors in diagnosis. Dr. Roy R. Kracke, Professor of Pathology and Bacteriology at Emory University School of Medicine, told us of four such instances that had come to his personal attention. All four cases were getting

anti-luetic treatment for a lues that had never existed[47].

Lymph gland studies reveal collections of small lymphocytes but the complete obliteration and invasion of normal structure seen in leukemia is not found[30].

The diagnosis of the disease rests at the present time on studies of blood films and findings of the heterophile antibodies of Paul and Bunnell.

While it is true that heterophile antibodies may appear in the blood stream in a variety of conditions, mainly of an allergic nature, such as serum sickness, etc., it is rare to find them present in a dilution of more than 1 to 32. Why the disease should produce antibodies that agglutinate sheep cells is not known. Sheep cells antibodies that appear in diseases other than infectious mononucleosis are not effective as agglutinins except at 37.5 degrees C., while those of infectious mononucleosis are effective down to 5 degrees C. Davidsohn[5] made a valuable contribution to this test in 1937 with his differential test which serves to distinguish this disease from other very similar diseases with borderline titers of heterophile antibodies. It is further useful in late cases where the titer of heterophile antibodies is low. Briefly, Davidsohn found that the removal of the agglutinins for the erythrocytes of sheep with beef erythrocytes, and the failure of guinea-pig kidney to remove them completely, establishes the diagnosis of infectious mononucleosis, while conversely, removal of the sheep agglutinins with guinea-pig kidney excludes the disease.

In most clinics a positive heterophile agglutination of 1 to 32 is considered suggestive and 1 to 64 conclusive, when Davidsohn's technic is used.

The febrile course may persist from 10 days to 3 or 4 weeks. Recrudescences are fairly common.

Lymph gland enlargement may persist for months. Mental depression has persisted for as long as 6 months.

Clinical picture. — Since the disease was first recognized, it has been customary to arbitrarily divide the cases into,

1st, anginose — those with sore throat,

2nd, glandular — with little or no throat involvement,

3rd, febrile — in which glandular enlargement is late in its manifestations. We see very little to be gained by this arbitrary division, as it is certain that these cases all overlap to some extent and it seems equally certain that all have a common etiological agent, or at least are antigenically the same or very nearly so. It seems to us that it is the limitations or lack of limitations to invasion, and the bodily responses, that tend to differentiate, if it be advantageous to differentiate different types of the same disease. One might arbitrarily differentiate individual differences in most of our recognized disease entities if this were desirable. The disease may be bizarre and atypical.[32, 35, 34] The most common errors in diagnosis occur in confusing this disease with diphtheria, Vincent's angina, influenza, tuberculosis of lymph glands; abdominal conditions such as jaundice, acute appendicitis; or central nervous system involvement.

Perhaps one might list as cardinal points in the diagnosis:

1. Fever.

2. Sore throat; may be late and may never be present.

3. Headache; rather constant.

4. Enlarged cervical glands; less often, axillary and inguinal glands.

5. Palpable splenic enlargement. One case of spontaneous rupture of the spleen was recently reported by King[31]. Some enlargement of the liver is common.

Less often are found:

6. Jaundice; presumably from the pressure of enlarged abdominal glands, or hepatitis.

7. Skin rashes; generally occurring at the height of the disease and resembling somewhat a drug rash. Its distribution is generally confined to the trunk.

8. Chronic cough from mediastinal glands.

9. Central nervous system symptoms.

The literature has recently produced a few case reports of meningeal symptons occurring during the course of infections mononucleosis.[37, 38, 39, 40, 41, 48] I should like to report 4 cases of my own, each showing a slightly different type of central nervous system involvement.

CASE 1

B. L. — Female, age 22. Complaint — coldness, fever, aching in legs, headache, weakness. Entered St. Luke's Hospital August 4, 1941. Temp. 102R.

Onset 4 days before. Physical examination negative except for slight stiffness of neck, bilateral positive Oppenheim, Babinski positive on right side and suggestive on left. Slight cervical adenopathy. No sore throat.

Blood smear, August 4. Lymphocytes (atypical) 56, Monocytes 2, eosin 1, basophil 1, band 1, neutrophil 39. Total WBC 10,150, RBC 4.03, HB 11.2 Gms. Kahn negative.

Spinal fluid under 250 mm. of pressure. Clear, colorless. Ross Jones 2 plus. Pandy 3 plus. Total protein 144, cells 150, 85% lymphocytes. No organisms seen. Sugar 56. Heterophile agglutination positive 1-128. Guinea pig innoculation; animal killed in two months. No pathology.

Treatment: Aspirin gr. x PRN. Complete recovery in 4 weeks.

CASE 2

F. H. Male, age 24. Entered St. Luke's September 29, 1940. Complaint — sore throat one week, fever two days, myalgia one day. "Cold" ten days before. Throat had membrane. Throat culture showed 50% hemolytic streptococcus. Blood culture negative. Temp. 102R. entrance, 104R. on third day. Gradually subsided to normal at end of three weeks. RBC 4. 75, HB 14.7 Gms., WBC 8,500. Diff. — lymphocytes (atypical) 58, mono. 6, neut. 27, Bas. 1, band 1, Heterophile 9-30-40 positive 1-256 warm titer, 1-1024 cold titer. This went to 1-1024 warm titer, 1-2048 cold titer at end of 2½ weeks. Urine neg. Kahn neg. After 10 days complained of pain down both arms with weakness and inability to move left arm away from side. Discs were normal. Definite atrophy of the deltoid and shoulder group began to appear. Spinal fluid showed 6 cells, 4 plus Pandy, 3 plus Ross Jones. Total protein 100. Kahn neg. Complete recovery in 8 weeks. Treatment: Sulfathiazol Gm. 1 every 4 hrs. for first 3 days, then Aspirin gr. x PRN for discomfort.

CASE 3

T. S. Male, age 31, entered St. Luke's August 10, 1941. Onset 5 days before. Headache, lassitude, nausea, fever. No muscle weakness or rigidity. WBC 10,850. Diff. — lymphocytes (atypical) 73, mono. 2, neutro. 25. Spinal puncture on 2nd day — cells 4, Ross Jones 2 plus, Pandy 3 plus. Protein 80 mgs. Kahn neg. Pressure 300 mm. of water. Heterophile agglutination warm titer 1-512, cold titer 1-1024. Treatment: Sulfathiazol Gm. 1 four times daily for 4 days. Temperature normal after 2 weeks. Complete recovery in 4 weeks.

CASE 4

E. J. R. Female, age 24. Entered St. Luke's October 4, 1941. Temp. 100R. Complaints — headache, backache and sore throat, one week's duration. Physical findings — tonsillar exudate. Smear positive for Vincent's organism. Enlarged cervical glands. Spleen became palpable during hospital stay. Spinal puncture — fluid pressure 170, Ross Jones negative, Pandy 1 plus, protein 30 mg. No cells found. Kahn neg.

Blood — RBC 3.8, HB 10.8, WBC 9,850. Diff. — Lymphocytes (atypical) 66, mono. 1, neut. 32, bas. 1. Heterophile agglutination 1-256 cold titer, 1-16 warm titer. Temperature normal in 3 weeks. Some recurrence for one week, 2 weeks later. Complete recovery in 8 weeks.

Treatment: Sodium Cacodylate gr. viiss, daily IV for one week during height of sore throat.

A suggestion is contained here that at least some cases of lymphocytic meningitis are really cases of infectious mononucleosis with meningismus. Huber[39] in 1938 reported 3 cases exhibiting meningismus, 2 of which showed increase in the lymphocytes in the spinal fluid. Schmidt and Nyfeldt[38] have described 5 cases of meningo-encephalitis. Epstein and Dameshek[37] as early as 1931 reported one case of glandular fever with CNS involvement and an increase in the lymphocyte count of the spinal fluid.

Case number 2 has been most interesting to me because as far as I have been able to find out, it is the first such case of the so-called Guillaine-Barre syndrome with paralysis, to be identified as infectious mononucleosis[49]. Richardson[50] 1942 described a case of paralysis of the Serratus Magnus muscle occurring in the 3rd week of a typical case of infectious mononucleosis. In 1916 Guillaine[42] in collaboration with Barre described a clinical syndrome characterized by motor disturbance, loss of tendon jerks with preservation of cutaneous reflexes, paresthesias with slight disturbances of objective sensibility, tenderness on pressure of the muscles, little change in the electrical reactions of the nerves or muscles, and noteworthy hyperalbuminosis of the cerebro-spinal fluid in the absence of cytological reaction. Madigan and Marietta[43] in 1938, and Stone and Aldrich[44] in 1940 reported cases of acute polyradiculoneuritis "Guillaine-Barre syndrome." In particular, the case of Madigan and Marietta might fit into the diagnosis of infectious mononucleosis because the only previous history was that of a sore throat on admission to the hospital.

In 1936 Gilpin, Maersch and Kernoban[45] presented a study of 35 cases of "neuronitis" which they had collected, most of which had followed some transient infection. They were characterized by an increased protein in the cerebro-spinal fluid with little or no increase in cells. Motor paralysis was generally recovered from in from several months to 2 years. In no case had infectious mononucleosis been diagnosed.

Bassoe[46] in 1938 described a series of cases all classified as Guillaine-Barre syndrome, all with an onset suggestive of infection, more or less paralysis, pain and other sensory disturbances, high protein value and low cell count in the spinal fluid — all exhibiting a good prognosis. The suggestion was made that the disease might be of virus origin but no blood studies were shown on any of three cases reported. Perhaps some of these might have been unrecognized cases of infectious mononucleosis.

Case number 3 showed increased spinal fluid pressure, hyperalbuminosis with no increase in cells.

Case number 4 shows only headache without abnormal spinal fluid findings.

Treatment. — In cases complicated with Vincent's organisms in the tonsils and throat, arsenicals in the form of neoarsphenamine or sodium cacodylate have been thought to be of value. We feel there may be some danger in this, particularly if the neutropenia is severe.

Members of the sulphonamide family have been tried in the past five years with very disappointing results. The same objection might be raised to their use as to that of arsenic — the danger of deepening the neutropenia.

The one bright spot on the horizon, as far as treatment is concerned, is the recent report of Lassen and Thomsen[34, 35] on the use of convalescent serum.

These authors report on the successful use of convalescent serum in twelve cases of infectious mononucleosis, nearly all presenting severe angina with considerable lymph gland involvement, selected from a larger number serving as control groups. The serum was secured from adult patients one or two weeks after they had become free from fever. It was injected intravenously in doses of from 60 to 300 cc. The control cases were treated with non-specific serum, with neoarsphenamine, or symptomatically with analygesics and antipyretics. One-fourth (25%) of the twelve serum-treated cases showed a critical fall of temperature within 24 hours, and an additional 50% showed normal temperatures within 48 hours. All twelve patients felt subjectively better within 24 hours after injection, 11 showed a distinct objective improvement within the same period. No subsequent complications were noted, such as peritonsillar abscess or otitis media. In the control group treated with non-specific serum (Diphtheria antitoxin) none showed improvement within 24 hours, and only 34% showed any fall of temperature after 48 hours. Neoarsphenamine seemed ineffective.

SUMMARY

Four cases are reported, all proven cases of infectious mononucleosis, all 4 exhibited some toxic cerebro-spinal symptons, 1 with negative neurological findings, 3 with definite increased spinal fluid pressure, 1 with an increase of lymphocytes in the spinal fluid, and 1 with definite Guillaine-Barre syndrome, previously unidentified with this disease. Recovery was complete in all. The diagnosis was made by blood smear study and the use of the heterophile agglutination reaction.

REFERENCES

1. Pfeiffer, E.: Das Drusenfieber, Jahrb. f. Kindesh, **29**: 257-264, 1889.
2. Sprunt, T. P.; Evans, F. A.: Mononuclear Leucocytosis in Reaction to Acute Infections (Infectious Mononucleosis), Bull. Johns Hopkins Hospital, **31**: 410, 1920.
3. Paul, J. F.; Bunnell, W. W.: Presence of Heterophile Antibodies in Infectious Mononucleosis, Amer. Jour. Med. So., **183**: 90, 1932.
4. Davidsohn, L.; Walker, P. H.: Nature of Heterophile Antibodies in Infectious Mononucleosis, Amer. Jour. Clin. Path., **5**: 455, 1935.
5. Davidsohn, I.: Serologic Diagnosis of Infectious Mononucleosis, Jour. Amer. Med. Assn., **108**: 289, 1937.
6. Stuart, Burgess; Lawson, Wellman: Some Cytologic and Serologic Aspects of Infectious Mononucleosis, Arch. Int. Med., **54**: 199, 1934.
7. Beer: Heterophile Antibodies in Infectious Mononucleosis and after injection of Serum, J. Clin. Inv., **15**: 591, 1936.
8. Demanche: Diagnosis of Infectious Mononucleosis; Value of Serologic Reactions, Presse Medicale, **47**: 1614, 1939.
9. Durupt, A.: Serologic Diagnosis of Infectious Mononucleosis, Presse Medicale, Paris, **45**: 1219, 1937.
10. Stuart; Welch; Cunningham and Burgess: Infectious Mononucleosis, Further Studies, Arch. Int. Med., **58**: 512, 1936.
11. Thomson, S.: Bunnell Reaction in Infectious Mononucleosis, Ugeskrift for Laeger, Copenhagen, **101**: 98, 1939.
12. Weinstein, G. L.; Fitz-Hugh, T. Jr.: Heterophile Antibody Test in Leukemia and Leukemoid Conditions, Amer. Jour. of Med. Sc., **190**: 106, 1935.
13. Paul, J. R.: Infectious Mononucleosis, Bull. N. Y. Academy of Med. **15**: 43, 1939.
14. Issacs, Sturgis, Bethel and Goldhamer: Blood, Review of Recent Literature, Arc. Int. Med., **65**: 1292, 1940.
15. Gorham, L. W.; Smith, D. T.; Hunt, H. D.: The Experimental Reproduction of the Blood Picture of Infectious Mononucleosis in the Guinea-pig, Jour. Clin. Inv., **7**: 504, 1929.
16. Murray, E. G. D.; Webb, R. A. A.; Schwann, M. R. R.: Disease of Rabbits Characterized by Large Mononuclear Leucocytosis Caused by Hitherto Undescribed Bacillus, Bacterium Monocytogenes, Jour. Path. and Bact., **29**: 407, 1926.
17. Nyfeldt, A.: Studies on Etiology of Infectious Mononucleosis, Hygiea, Stockholm, **99**: 433, 1937.
18. Nyfeldt, A.: Etiologie de la Mononuclease Infectiense, Comp. Rend. Soc. de Biol., **101**: 590, 1929.

19. Janeway, Chas. A.; Dammin, Gustave J.: Studies on Infectious Mononucleosis, The Relationship of the Organisms of the Genus Listerella to the disease as studied by the Agglutination Reaction, Jour. Clin. Inv., 20: 233, 1941.
20. Bland, J. O. W.: Glandular Fever, Lancet, 2: 521, 1930.
21. Thomsen: Effect of Sulfanilamide on Infectious Mononucleosis, Ugeskrift for Laeger, Copenhagen, 102: 779, 1940.
22. Barber, H. Stuart: Anginose Glandular Fever, Lancet, 40: 71, 1941.
23. Downey, Hal.; McKinlay, C. A.: Acute Lymphodenosis compared with Acute Lymphatic Leukemia, Arch. Int. Med. 32: 82, 1923.
24. Ulrich, Bleyer: Acute Lymphatic Leukemia and Infectious Mononucleosis, Jour. AMA 96: 191, 1931.
25. Ustvedt, H. J.: Infectious Mononucleosis, Norks Magasin for Laegevidenskapen, Oslo, 98: 139, 1937.
26. Freeman, W.: Bone Marrow Studies in Glandular Fever, Amer. Jour. of Clin. Path., 6: 185, 1936.
27. Nordenson, N. G.: Sternal Puncture and its Practical and Theoretical Significance, Partial Index, Hygiea, 6: 834, 1940.
28. Leitner, S. J.: Infectious Mononucleosis with Special Reference to Sternal Puncture, Schweizerische Medisinische Wochenschrift, 70: 117, 1940.
29. Wiseman et al: A Fundamental Reciprocal Relationship between Myeloid and Lymphoid Tissues, Jour. A.M.A. 106: 609, 1936.
30. McKinlay, C. A.: Infectious Mononucleosis, Jour. A.M.A. 105: 761, 1935. Downey, Hal.; Stasney, J.: Infectious Mononucleosis, Hematologic Studies.
31. King, R. B.: Spontaneous Rupture of Spleen, New Eng. Jour. Med., 224: 1058, 1941.
32. Goldhamer, Sturgis, Bethell: Blood, Review of Recent Literature, Arch. Int. Med. 67: 1258, 1941.
33. Werlin, Dolpopol, Stern: Infectious Mononucleosis, Diagnostic Problem, Amer. Jour. Med. Sc., 201: 474, 1941.
34. Lassen Thomsen: Treatment of Infectious Mononucleosis with Specific Convalscent Serum, Ugeskrift for Laeger, Copenhagen, 102: 774, 1940.
35. Lassen, H. C. A.; Thomsen, S.: Specific Convalescent Serum in Infectious Mononucleosis, Acta Media Scandinavica, Stockholm 104: 498. 1941.
36. Reyersbach, G.; Lenert, T. F.: Infectious Mononucleosis without Clinical Signs, Amer. Jour. Dis. Children 61: 213, 1941.
37. Epstein, S. H.; Dameshek, W.: Involvement of Central Nervous System in a Case of Glandular Fever, New Eng. Jour. Med. 205: 1238, 1931.
38. Schmidt, V.; Nyfeldt, A.: Infectious Menonucleosis and Meningo-Encephalitis in Ugeskrift for Laeger, Copenhagen, 100: 336, 1938.
39. Huber, W.: Serous Meningitis in Pfeiffer's Glandular Fever, Schweizerische Medizinische Wochenschrift, Basel, 68: 892, 1938.
40. Johansen, A. H.: Case of Infectious Mononucleosis with Meningeal Symptoms, Ugeskrift for Laeger, 93: 32, 1931.
41. Landes, Ralph; Reich, Joseph P.; Perlow, Samuel: Central Nervous System Manifestations of Infectious Mononucleosis, Jour. A.M.A. 116: 2482, 1941.
42. Guillaine, George; Barre, J. A.; and Strohl, A.: Bull. et mem Soc. Med. d. hop. de Paris 40: 1462, 1916.
43. Madigan, Marietta: Polyradiculoneuritis with Report of Case Ann. of Int. Med. 12: 719, 1938.
44. Stone, Aldrich: Acute Polyradiculoneuritis (Guillaine-Barre Syndrome), Jour. A.M.A. 114: 2196, 1940.
45. Garvey, P. H.; Jones, N.; Warren, S. L.: Polyradiculoneuritis (Guillaine-Barre Syndrome) following the use of Sulfanilamide and fever therapy, Jour. A.M.A. 115: 1955, 1940.
46. Bassoe, P.: Guillaine-Barre Syndrome and Related Conditions (Meningoradiculomyelitis and Meningomyeloencephalitis), Arch. Path. 26: 289, 1938.
47. Kracke, Roy G.: Personal Communication.
48. Shafar, J.; Weis, J. C. R.: Meningeal Reaction in a Case of Glandular Fever, British Med. Jour. 1: 218, 1943 Feb.
49. Coogan, Thomas J.: Unpublished paper read before Chicago Society of Int. Med., Jan. 1942.
50. Richardson, J. S.: Lancet 1: 618, 1942.

DISCUSSION

Dr. Roland P. Mackay (Chicago): Mr. Chairman, Ladies and Gentlemen: I have been greatly interested in Dr. Coogan's penetrating and provocative discussion of acute infectious mononucleosis in its neurologic aspects.

Last September we saw a girl, age 20, unmarried, who, on the 27th of September, had had nausea and headache, perhaps a little fever. On the 28th she was worse and had to quit work. That evening she had vomiting and diarrhea and developed an urticarial rash over her trunk.

On the next day she was perhaps a little worse, and had some epigastric distress and chills and fever with what was called tremor and spasm of the right hand. On the thirtieth of September, the fourth day of her illness, she was somewhat better; but after eating a rather hearty lunch she grew worse and vomited her luncheon. Her temperature at that time was 102 by mouth, and she again had this tremor of arms and of her body, with what appeared to be a spasm in her hand.

On the first of October, she was admitted to St. Luke's Hospital because of difficulty in swallowing and acute poliomyelitis was suspected. However, she was neurologically negative. Her difficulty in swallowing seemed to be due to a sore throat. In addition, she had periods of hyperventilation, with carpal spasm and stocking anesthesia on both legs up almost to the knee. There were tender lymph nodes in the right side of her neck, and Trousseau's sign was positive on both sides. Chvostek's sign was negative. This girl seemed to be suffering from hyperventilation tetany and was probably psychoneurotic, but the fact was recognized that she had some medical illness which I did not presume to diagnose.

On the first day her red blood count was 3,950,000; the hemoglobin 11.3 grams; white blood count 6,450, of which 25% were lymphocytes, 53% were polymorphonuclears, and 22% band cells.

Five days later another blood count was done. Red count was 4,320,000; hemoglobin, 13.2 grams; white count had risen by that time to 11,900 of which 79% were lymphocytes, 18% polymorphonuclears, and 3% were band-shaped cells. Heterophile agglutination was positive.

The diagnosis was acute infectious mononucleosis, with the hyperventilation of tetany. The spinal fluid findings were quite negative in this case.

To pass on to a discussion of Dr. Coogan's paper, I believe that his treatment of the subject brings up two major problems. The first is the relationship of acute infectious mononucleosis to the so-called benign chorio-meningitis which we see not infrequently. I am inclined to think that while this condition is also probably a virus disease, it must be a different virus, perhaps related to the hypothetical virus of infectious

mononucleosis. The reason I think it is not the same virus is that the clinical picture in typical cases of acute benign lymphocytic meningitis is quite different from that which Dr. Coogan has described and which we saw in the case that I have just detailed.

Furthermore, it is quite rare that there is any mononucleosis in the blood in these cases of chorio-meningitis. It is quite difficult to find adequate data on that point; however today, in hunting for such a report, I ran across an article by Dummer, Lyon and Stevenson in the Journal of the American Medical Association, February 20, 1937, in which he described the cases of 22 children with lymphocytic chorio-meningitis. And in that series of cases he made a differential blood count on all of the patients. He had some graphs to show the differential blood counts, and in summarizing those graphs one may say that the leukocytic count varied between 7,000 and 18,000; mostly, however, between 7,000 and 10,000. The differential count varied. Lymphocytic fraction of the white count varied from between 10% and 65%. One or two cases had 65% mononuclear lymphocytes. But mostly the lymphocyte increase is varied between 10% and 30%, while the polymorphonuclear varied between 30% and 90%, mostly from 65% to 90%.

The other question that presents itself is whether there is any relationship between infectious mononucleosis and so-called acute infectious polyradiculitis or polyneuritis, in which there is an increased protein in the spinal fluid without increase in the cell count.

The picture is quite different from those seen in typical infectious mononucleosis. These patients are dramatically, acutely ill in most cases, and they have a pronounced polyneuritis and tenderness, marked weakness, and sometimes pronounced paralysis of the face. Sometimes these patients die. So far as my experience is concerned, mononucleosis does not occur in the blood. I am very fortunate in being able to report three patients that are in the Illinois Neuropsychiatric Institute with this syndrome. I had some differential counts made on these patients and I am able to tell you that on one of them the red count is 5,100,000; white count, 4,800; polymorphonuclears, 53%, lymphocytes, 43%, monocytes, 3% and eosinophiles 1%.

On another the red blood count is 4,850,000; white blood count is 11,400; polymorphonuclears 74%; lymphocytes 19%; monocytes 4%; eosinophiles 3%.

In the third case in which the patient has a pneumonitis (and perhaps this destroys the value of these figures), the white count is 18,500; polymorphonuclears 58%; lymphocytes 31%; monocytes 5% and eosinophiles 3%.

So I think that while Dr. Coogan, Dr. Martinson and Dr. Mathews are certainly thought-provoking in suggesting that there is probably a close relationship between the virus in these three illnesses, one perhaps should not think of these diseases as being in any way the same.

We know little enough about virus diseases, but I think it is not difficult to postulate that viruses, like bacteria, very often resemble each other, and may in exceptional cases imitate each other, although differing specifically from each other.

I want to congratulate Dr. Coogan and his collaborators on their paper. It has been a stimulating and interesting one and I think more work like this will help materially in these questions.

Dr. Coogan: I have only one thing more to say in closing, and that is that today in a conversation with Dr. DeTakats, one of my colleagues, he said that he was very much interested in this question because in the past two years two cases had come under his observation in nurses. Following a bout of infectious mononucleosis excessive sweating of both feet occurred. Cold wet feet which became so severe that the nurses were unable to work occurred. Finally bilateral sympathectomies had to be done on both cases. He was questioning whether the sympathetic portions of the central nervous system might not also suffer occasionally in infectious mononucleosis.

ACUTE PYOGENIC OSTEOMYELITIS OF THE FACIAL BONES

GLENN J. GREENWOOD, M.D
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Osteomyelitis of the maxillae is very common, being about eighth in frequency in skeletal involvement. It occurs at all ages.

The superior maxilla arises directly in membrane. Two centers of ossification contribute to the formation of this bone, one for the premaxilla and the other for the maxilla proper. The suture line between these two in the palate is present until middle life. The superior maxilla contains the antrum of Highmore and the upper teeth. It is thus closely related to the mouth, nose and orbit.

The blood supply of the superior maxilla springs, for the most part, from the trunk of the internal maxillary artery. These branches are the alveolar, the infra-orbital, the sphenopalatine and the descending palatine arteries. The ethmoid, frontal and nasal branches arise from the ophthalmic artery while the external maxillary springs from the external carotid. Anastomosis of these arteries is so intimate that they seldom function as end arteries. The periosteum has few vessels, the alveolar mucosa supplying most of those present. Proof of this deficiency is the absence (or meager regeneration) of any new

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bone after disease or destruction of any portion thereof.

The inferior maxilla (or mandible) is developed from both membrane and cartilage. It is the second bone to undergo ossification. It can be looked upon as one of the long bones, being made up of two bent halves which meet at the symphasis.

The blood supply of this bone is more unique than the superior maxilla. The inferior dental artery arises from the first portion of the internal maxillary artery, courses through the lower ramus and body to nourish its appropriate side (and teeth), effects collateral circulation through its dichotomous branches with its fellow of the opposite side, at the symphasis menti. Unlike the superior maxilla, the periosteal circulation in this bone is abundant except over the upper ramus and its processes, where muscular arterial supply sufficies. We thus see the potentialities for good involucrum formation here.

Besides the usual sources of osteomyelitis incident to all bones, we find dental pathology intimately associated as an etiological factor in both maxillae and in the superior maxilla infection of the antrum of Highmore constituting another potential point of origin.

Odontogenous factors inciting osteomyelitis may be listed as:

a) *Dental caries* which may be superficial or deep, involving the pulp chamber and root canals.

b) *Periapical abscesses* which may be secondary to dental caries, improper root canal technique, trauma rendering the tooth avital, or it may be of metastatic origin. Wilensky[1] is of the opinion that a point of fixation develops in the apical vascular structures, secondary to occlusion trauma. This results in a relatively circumscribed lesion with erosion at the root apex and the adjacent root socket. In turn, this culminates in an abscess cavity lined by organizing granulation tissue. Streptococci hemolyticus is the common offender.[4] Inflammatory or traumatic periocemental lesions may have associated periapical pathology. So-called blind abscesses, lacking a sinus tract but discharging through the root canal, have characteristics akin to the chronic long-bone abscesses described by Brodie.

c) *Pyorrhoea alveolaris;* the essential etiology here is unknown but when it progresses with pus formation it must be considered as an odontogenous factor.

d) *Fractured teeth* with retained root remnants becoming infected may assist in initiating an osteomyelitis process.

Osteomyelitis here, as in the frontal bone group, can be classified as a primary, an extension, or a hemolytic form.

Primary forms, implicating traumatic dental fracture with infection's inflammatory products, produces tension. Thrombi which form in the blood vessels impair circulation; this, in turn, deprives a given area of its nutrition and results in a regional necrosis. Trabeculae break down and inflammatory products may perforate the cortex and periosteum with sequestrum exfoliation.

Extension forms predominate in osteomyelitis of these bones. Extension takes place from any lesion of the overlying soft tissue whose commuting vascular thrombi may invade the bony structure. Staphylococcic chin infections typify this form. More direct extension accrues from infection complicating any dental manipulation or surgical procedure, thereby compromising the regional blood supply. An example of this type is any operative dental procedure which utilizes pressure in the presence of infection, to diffuse medication, effect anesthesia, fill root canals or plug extraction sockets for either hemorrhage or pain.

A history often elicited in this extension type of osteomyelitis is that a patient with a local infection seeks relief from the acute pain. Extraction is advised and is followed by further increase in pain with tenderness and swelling. This, in turn, may be succeeded by a chill, fever, lassitude and other signs of a general infection. (Some ninety days later a roentgenogram may show a sequestrum completed. Removal may be accomplished.)

Hematogenous forms of osteomyelitis of the jaw are often difficult to distinguish from extension types. Here where the lodgement of a blood-borne infection is at or in the root apices' vascular structure, resulting in periapical pathology,

it is impossible to differentiate between a hematogenous and extension periapical abscess. If the tooth is intact and trauma ruled out, then one apparently can assume its hematogenous origin. Another criterion is the culturing of identical bacteria from the primary focus and the metastatic lesion. Still further evidence of the hematogenous origin is seen in deep chronic jaw abscesses, infected impacted teeth and those cases associated with the acute eruptive fevers.

That osteomyelitis of the superior maxilla occurring in infants is of hematogenous origin has been shown by Wilensky.[1] Characterized by a loss of unerupted deciduous and permanent tooth buds, this entity has been erroncously ascribed as arising from a purulent maxillary sinusitis, a nasal infection or infection of the unerupted tooth buds per se. He believes osteomyelitis here no different from that occurring elsewhere.

It happens thus — the anterior and posterior dental arteries, coursing respectively in front of and behind the antrum anastomose in the alveolus, forming a closed arterial blood supply. Embarrassment of circulation here in the presence of the feeble periosteal vascular supply strangles circulation, resulting in sequestration of the impoverished alveolus along with its tooth bud structure. The fact that some affected buds situated in the impoverished area later erupt must be explained on the presence of an adequate collateral circulation. The rationale for the more frequent involvement of the superior than the inferior maxilla in this process may be explained on the larger size and more rigid construction of the superior maxilla, it being firmly attached to the skull. Thus, trauma becomes more poorly cushioned here. Vascularity is very rich about the unerupted teeth and tooth buds. Consequently, a receptive combination invites points of fixation in the vascular structure for the metastatic lesion's lodgement and devascularization occurs.

So we see, depending upon the locus of the thrombophlebitic lesion and the collateral circulation, one may have circulatory embarrassment with resultant pathology of the entire superior maxilla or any portion thereof. Abscesses form, fistulae develop through which sequestra and uncrupted teeth and tooth buds may be expelled. Eighty per cent of mouth fistulae are at the alveolar arch of which fifty per cent are in the cuspid region where the pre-maxilla and maxilla fuse.

Early this bizarre picture presents a clinical course which necessitates its differentiation from ophthalmia neatorium, erysipelas, dachryocystitis, syphilis and tuberculosis.

Turning now to the symptoms and signs of osteomyelitis of the jaws in general, we note that they are derived from the regions involved, the associated lesions and the resultant complications, both local and general.

Locally pain is boring, worse reclining and greatest nocturnally. Relief accompanying cortical perforation is completed with periosteal escape of pus through soft tissue fistulae. In the loose facial subcutaneous tissue of the superior maxilla soft tissue destruction produces marked swelling.

Generally, symptoms are those occurring in any acute infection.

In the superior maxilla areas especially deprived of their circulation and which undergo abscess formation with subsequent sequestration are: the facial surface and adjacent alveolus. Here the vascular supply is common to the bone and overlying soft tissue resulting in much subcutaneous tissue death. Next, the maxillary sinus, due to circulatory failure in the anterior and posterior dental arteries, produces an abscess whose alveolar sequestra involves the angle formed by the floor and facial wall of the antrum.

Trauma in a suppurative maxillary sinusitis is a logical etiological factor in a complicating osteomyelitis. Why osteomyelitis does not occur more often is open to speculation.

Marshall[2] believes that a purulent maxillary sinusitis secondary to a periapical abscess is a thrombo-embolic lesion of the apical end arteries of the bicuspids or molar teeth.

In infants edema and abscesses with fistula and sequestra formation may result from lesions embarrassing vascular supply to the lateral aspect of the nose, the medial floor of the orbit and the palate.

In the mandible we see devascularization of bone at its best. Here with a central thrombosis and periosteal stripping extensive sequestra may occur. Here gravity encourages large accumulations of pus. The internal wall of the inferior maxillae is much thicker than the lateral, con-

sequently lesions most often burrow laterally. The attached soft tissue structure with its fascial planes derived from the vaginal fascia directs the purulent debris into neighboring potential spaces.

Thus we see that laterally abscesses may burrow into the buccal vestibule if high up, while if low down they may invade the overlying subcutaneous tissue. Third molar lesions may involve the jaw angle region or they may spread into the submaxillary triangle area, or even extend superficial to the vaginal fascia as low as the sterno-clavicular region. Ramus lesions pointing laterally may simulate a parotid abscess.

Medially from the body the mylohyoid directs the pus. If above it, the swelling may simulate a Ludwig's angina. If below it, the submaxillary triangle may contain it. If in the ramus, the internal pterygoid muscle fascia may direct it medially into the mouth or laterally along the posterior free border. Trismus characterizes pterygoid muscle involvement.

Complications accruing from osteomyelitis of these bones locally may further include, beside the above-mentioned soft-tissue abscesses, suppurative maxillary sinusitis, orbital abscess or an ankylosis of the temporomandibular joint. General sequelae may be a bacteremia or a septicemia. Complicating intracranial lesions, though rare, may include a meningitis, brain abscess or an encephalitis.

Roentgenograms are of little value early in maxillary osteomyelitis. After ten to fourteen days some decalcification may be demonstrated. They derive their greatest value in noting pathology previously present and in observing the progress of the lesion, particularly as regards sequestrum formation.

Wilensky[1] states that in the superior maxillae adjacent bones render distinction between normal and diseased bone difficult, whereas in the lower jaw good relief is obtained.

Treatment of osteomyelitic lesions here rather emphasizes conservatism, but when operative interference is indicated it should be boldly and efficiently instituted. In general, as Blair[3] aptly states, early drainage of the focus with the least possible operative trauma is desirable. Then it is well to wait until the virulence of the infection has subsided. This permits the dead bone to separate and sufficient new bone to form to maintain the continuity before attempting radical operative measures. Lastly, all fragments of dead bone must be removed without damaging protective granulations. Removal of overhanging edges permitting soft tissue to fill in is often facilitated by well-nourished skin flaps.

Prophylaxis should be directed primarily toward the prevention of dental caries and soft tissue infection. Enforcement of the rules of asepsis and obviation of unnecessary trauma should be stressed.

Extraction of teeth might be better approached if greater stress were laid upon the virulence of the infection and the resistance of the individual. That conservatism in treatment of acute dentroalveolar lesions "pays off" is exemplified in reports from the literature.

SUMMARY

While adequate treatment of acute fulminating osteomyelitis of the frontal and its articulating bones requires prompt radical surgical interference, care of acute osteomyelitis of the maxillae calls for the employment of time to permit adequate localization to occur then the institution of proper operative measures to eradicate all evidence of residual pathology. Both often demand subsequent cosmetic surgery.

BIBLIOGRAPHY

1. Wilensky, A. O.: Osteomyelitis. Its Pathogenesis, Symptomatology and Treatment. Text. New York, MacMillan Company. 1934.
2. Marshall, J. S.: Operative Dentistry. Text. J. B. Lippincott Co. 1901.
3. Blair, V. P., and Brown, J. B.: Septic Osteomyelitis of the Bones of the Skull and Face: A Plea for Conservative Treatment. Ann. Surg., 85: 1-26, 1937.
4. Rosenow, Gilmer and Moody: Quoted by Blair, V. P., Padgett, E. C., and Brown, J. B.: Diseases of the Face, Mouth and Jaws, in Graham: Surgical Diagnosis; Philadelphia, 1930. W. B. Saunders Co.
5. Williams, H. L., and Nichols, D. R.: Spreading Osteomyelitis of the Frontal Bone Treated with Penicillin. Proc. Staff Meet., Mayo Clin., 18: 467-469, (Dec. 1) 1943.
6. Iglauer, Samuel: Two cases of Osteomyelitis Treated with Penicillin: Case 1, frontal; Case 2, maxillary. Laryngoscope. 54: 150-156, (March) 1944.
7. Kirby, W. M. M., and Hepp, V. E.: Treatment of Osteomyelitis of the Facial Bones with Penicillin, J.A.M.A., 125: 1019-1022, (Aug. 12) 1944.
8. Putney, F. J.: Uses of Penicillin in Diseases of the Nose and Throat. J.A.M.A., 126: 620-622, (Nov. 4) 1944.
9. Colbert, R. M.: Osteomyelitis of the Frontal Bone Treated with Penicillin. Ann. Otol. Rhin. & Laryng., 53: 522-530, (Sept.) 1944.
10. Herrell, Wallace E.: Penicillin and Other Antibiotic Agents: Infections of the Skeletal System. Text. W. B. Saunders Co., 163-174, 1945.

DISCUSSION

Dr. Thomas C. Galloway, Evanston: Dr. Greenwood has given us such a thorough review that I shall not discuss most of this paper. I shall confine

myself to one consideration — spreading osteomyelitis in relation to anaerobic infection. The conventional idea of cranial osteomyelitis is not satisfactory in two respects. It does not explain why, in the first place, such infection arises so commonly from trivial as opposed to widespread operations. One practically never gets it in an external frontal or radical maxillary sinus operation, but does get it from simpler intranasal procedures, in which is provided a covered focus with an injured blood supply in which anaerobic organisms can flourish. In the second place, the idea of spreading thrombophlebitis does not well explain the spread from the maxillary and other compact facial bones.

I have been interested in Meleney's work in certain intractable spreading infections in soft tissues which he showed to be due to anaerobic or microaerophilic streptococci. By wide exposure and the use of zinc peroxide, he was able to control these. This type of infection seemed analagous to what we find in spreading cranial osteomyelitis, so that search was made for anaerobic streptococci in such cases. While routine culture methods seem usually to miss this organism, by very careful laboratory work in a series of some thirteen cases, we have been able to identify anaerobes in nearly every case. Williams et al had already made a similar demonstration. Also, in most of these cases the response after free exposure to zinc peroxide therapy has usually been striking.

Chemotherapy is not effective in the absence of oxygen and cannot be relied upon in these cases unless free exposure and oxygen are provided.

In my series[1] there were four clinical types.

If zinc peroxide is to be used, it must be a proper preparation, recently activated by heating at 140° C. for four hours, and it must be in contact with all pockets of infection. The wound must also be kept moist by vaseline or zinc oxide packs so that nascent oxygen is carried throughout the wound.

Dr. Glenn J. Greenwood: Since the presentation of this subject, successful treatment of osteomyelitis of the facial and cranial bones has been reported by H. L. Williams and D. R. Nichols; S. Iglauer; W. M. M. Kirby and V. E. Hepp; F. J. Putney; R. M. Colbert; W. E. Herrell.

1. T. C. Galloway — Infections with Anaerobic Streptococci.

Mass surveys of industrial workers, students, and army inductees have demonstrated quite clearly their usefulness in discovering unsuspected tuberculosis, but one large reservoir of tuberculous infection has thus far been almost entirely overlooked — those patients admitted to our general hospitals. Only a few hospitals and clinics in the country have adopted a program of routine roentgenographic examination of all patients, regardless of the nature of their complaint. Karl H. Pfuetze, M.D., Med. Dir. & Supt., Mineral Springs San., Cannon Falls, Minn.

OCULAR BRUCELLOSIS

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Brucellosis is a widespread common disease, frequently unrecognized clinically. The infection causes inflammatory iridocyclitis, chorioretinitis and neuroretinitis. The prevalence of brucellosis makes it particularly necessary to search for the kind of infection in every case with an inflammatory internal ocular disease of unknown etiology.

Definition. Brucellosis is a febrile septicemia infection with Brucella.

Brucellosis has been called many names depending upon locality and symptoms such as undulant, goat, dust, slow, continued, mountain, abortus, Mediterranean, Malta, Rock, Cyprus and Neapolitan fever. It has also been called phthisis and septicemia.

Etiology. Brucellosis is caused by three species of a micrococcus, called Brucella.

1. The caprine or goat species named Brucella melitensis, is usually most pathogenic for man. It is found in the udder, spleen and lymph nodes of goats producing interstitial mastitis and splenic lymphadenitis. Sheep and cows may become infected. It is spread to man by way of milk and cheese and by handling goats.

2. The porcine species or Brucella suis is the common virulent form in man. In 1935 in the United States the porcine species was isolated in 70 to 95 per cent of the typed cultures grown from blood of infected patients. The hog brucella has been found in the horse, cow, dog and chickens.

3. The bovine species or Brucella abortus is the least virulent species for man. Exposure to this species may result in no evidence of infection. It produces infectious abortion and chronic mastitis in cows. It may infect horses, sheep, deer, dogs and chickens but not hogs.

Epidemiology. Brucellosis is a world wide disease which is a great public health problem. Its occurrence in man, cattle, horses, hogs, sheep, goats and other domestic animals makes eradication difficult. It is now the most severe widespread disease among the cattle in the United States although the Department of Agriculture has reduced Bang's disease 50 per cent

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in the last ten years. Still the rate of the state and federal slaughter of cattle continues at a rate of 10,000 head a month in order to eliminate brucellosis in cattle. Porcine brucellosis is common in the hog raising states. In Iowa and California the hogs have a high rate of infection. The Middle West is a center of brucellosis infection in domestic animals.

In 1940 a minimum of 3358 human cases were reported to the U. S. Public Health Service. In the last ten years, 29,590 cases of brucellosis were reported in the United States. Many times that number of cases were undiscovered and unreported. Laboratory surveys indicate that about 10 per cent of the people may have had the infection. The number of cases in the Mid-West is increasing.

Transmission. The disease may be contracted by drinking raw milk from diseased goats or by ingestion of infected cheese, ice cream, milk and butter, or by contact with infected animals, and their urine, or by handling infected meat, fetuses and placentas. The infection may occur by the way of the skin and mucous membranes. The persons who tend to become infected are dairy men, butchers, vetinarians and bacteriologists. A high percentage of these people have a positive agglutination reaction and may show evidence of skin allergy. Perhaps the most common way of becoming infected is by the ingestion of raw milk. The porcine strain in milk is more virulent than the bovine. Milk heavily contaminated by the bovine strain may not give the infection.

The chief portal of entry of brucella is the gastrointestinal tract and skin. The incidence of the disease is highest among slaughterers, veterinarians, dairymen and farmers and lowest in children. Infections of infants is extremely rare.

Original Disease. Brucellosis or undulant fever is a subacute or chronic generalized infection with a gradual onset which is usually insidious. It is characterized by an irregular fever, by sweats, headaches, muscle and joint pains, weakness, loss of weight and nervous disturbances. The patients may come to the ophthalmologists for glasses to relieve the headache. The disease has so many varied symptoms that the diagnosis may be missed or mistaken for bronchitis, malaria, tuberculosis, influenza, typhoid fever, rheumatic fever, neurasthenia and other diseases. No other disease has so many clinical manifestations. There is a great tendency for relapses which last for weeks or years.

Ocular Disease. Ocular disease attributed to brucellosis is relatively rare. The large number of patients with unrecognizable brucellosis and the number with undiagnosed inflammatory ocular diseases lead one to believe that ocular brucellosis is more common than is realized.

Ocular brucellosis usually affects the eye internally and not externally. There is reason to believe that persons who show a high sensitivity and a high allergin response of their skin will have a conjunctivitis and keratitis when exposed to brucella antigen. They may have no symptoms of brucellosis. Such persons are veterinarians, butchers and farmers. Conjunctivitis and keratitis of brucellosis is difficult to diagnose unless the patient has a severe infection or has inoculated his conjunctiva.

Iridocyclitis, uveitis and chorioretinitis are the usual ocular diseases accompanying brucellosis. The iridocyclitis is chronic and may be recurrent. The nodular form of iritis may predominate or an exudative iridocyclitis of low degree of activity may be present. The iritis may simulate a tuberculosis and syphilitic disease. In the more common eye disease is a chorio-retinitis. Mild chronic infection may give an iridocyclitis with or without a slight central retinitis or it may give a central macular lesion of the retina. If the infection is subacute or chronic chorioretinitis may arise. In the acute severe form the systemic disease neuroretinitis may be the only ocular lesion discovered. In meningitis, neuroretinitis, papilledema, external ocular muscle paralyses may be observed. Rarely the process ends in Phthisis bulbi.

Diagnosis of Brucellosis. An interested and experienced internist and bacteriologist are a great help in the determination of the diagnosis of brucellosis. The examiner should have a good knowledge of the disease before the examination of the patient. No disease has more varied and diverse clinical manifestations.

1. *Clinical Examination.* The history of exposure to brucella is usually easily obtainable in case of acute infection. In the mild case of long duration the source of the contagion may not be found. The patient may have drunk in-

fected raw milk in summer camps or roadside stands, visited farms, or eaten cheese and may have forgotten about it. The symptoms are so varied that only prolonged questioning will give satisfactory answers. A review of the systems is perhaps the best method of examination. The physical examination of the patients generally give little or no positive information.

2. *Laboratory Diagnosis.* The diagnosis of brucellosis is mainly made on laboratory tests.

The only sure method of diagnosis is by the isolation of the organism from the blood. The blood should be diluted and then cultured in an atmosphere with a low oxygen tension. The incidence of positive blood cultures is low in patients with disease even in the acute lethal form.

Inoculation of guinea pigs with blood is a time consuming procedure. The agglutination of the blood of the guinea pig may be done in two weeks and the animal killed and tissues sectioned after one month. The percentage of guinea pigs acquiring the infection is low. There is also a great danger of laboratory technicians getting the infection in handling cultures or animals.

The isolation of organisms from the urine and feces are not done as the procedure is difficult and usually unsuccessful.

In general, procedures for the isolation of Brucella are not satisfactory.

The agglutination test on the blood is a simple procedure. Various dilutions of blood serum are mixed with standard vaccine of the three species of Brucella. A positive reaction with certain restrictions indicates a past or present infection with Brucella. A negative reaction may occur in brucellosis. In chronic brucellosis negative reactions are quite common. Fever from any sickness may produce false positives or raise the agglutination titer. Tularemia tends to give false positives. Agglutination tests repeated at intervals are more helpful diagnostically than one test.

The intradermal skin test with brucella vaccine either as single, triple killed cultures or with brucellergin should be done after the agglutination test or false positives may result. Positive skin tests also occur in patients who acquire an immunity to a virulent Brucella. Pork packers, dairymen, farmers and others in endemic areas exposed to raw milk or other sources of Brucella are in this group of positive reactions.

Another test is the determination of the degree of phagocytosis of a suspension of Brucella organism under standard conditions by white cells of the patient. This test is the least reliable test but it may give some indication whether the Brucella infection is present or past. According to Huddleson's interpretation the opsonocytophagic power of the blood is low during the active infective phase of the disease and becomes marked after recovery. On this basis, it is considered that patients have developed immunity to Brucella if 60 per cent or more of the polymorphonuclear leucocytes show marked phagocytosis. If as many as 40 per cent of the leucocytes show moderate to marked phagocytosis the patient may be infected and has not yet developed any immunity or he may be uninfected.

A blood count usually shows a leucopenia in acute brucellosis. In chronic brucellosis a leucopenia may not be present. Evidence of an active lymphocytogenesis is usually found.

The therapeutic test of injection of Brucella vaccine subcutaneously may give a clue to the diagnosis.

A patient may have active severe brucellosis with negative skin and agglutination tests, negative blood and feces culture and negative guinea pig test. Each patient must be considered as a clinical diagnostic case.

The disease usually can be differentiated from ocular tuberculosis, sarcoid, toxoplasmosis, trichiasis, tularemia, lymphogranuloma venereum, typhus and spotted fevers.

Tuberculosis is diagnosed by means of lymph gland biopsy. A part of the gland is used for sectioning and study, a part for inoculation into a guinea pig.

Sarcoid is diagnosed by the same method. X-rays of the chest and bones are also taken.

The diagnosis of toxoplasmosis is determined by serum neutralization tests on a rabbit.

Agglutinations are done for typhoid and tularemia.

Skin tests are performed for trichiniasis, tularemia and lymphogranuloma venereum. A positive skin or agglutination test for tularemia

acquires a complete review of the case because of the danger of false positives.

Typhus and tick fevers are checked by the B. proteus OX19 and OX2 agglutinations.

TREATMENT

The ocular disease is treated locally. For the general treatment of the ocular disease intravenous injection of typhoid vaccine to produce a fever of 103° to 105° F. may be used. A vaccine of brucella or brucellergin may be used.

Sulfa drugs have not been proven to be useful. Fouadin which was apparently used successfully in Malta has not been tried on ocular cases. The use of convalescent serum apparently has a place in treatment. There are no reports on the use of penicillin in brucellosis. The peculiar nature of the disease with its remissions makes the valuation of any particular therapy extremely difficult.

DISCUSSION

Dr. S. J. Meyer, Chicago: This paper is difficult to discuss for the reason that the essayist has been very thorough in his presentation, but to ophthalmologists it presents a very difficult problem. In the first place, the lesions that are found in this disease, the ocular lesions, do not differ from those we find in several other diseases. Therefore we are sometimes at a loss to designate Brucellosis as a causative factor. You will grant that there is no difference in the appearance of the conjunctivitis or the uveitis. It may be the same as seen in other causative factors, also the retinal changes. Therefore it simmers down to the fact that you must have an internist on the job who knows something about Brucellosis.

In our own practice we have had four cases; we have probably missed many more, not through our fault from the eye standpoint, but because we do not sometimes have a medical man who knows much about the disease. The laboratory in the average hospital fails to help confirm the diagnosis. We have had many cases probably incorrectly diagnosed simply because they were not worked up correctly. It is true that in certain centers where patients come in from the country, you will find a much larger percentage than in Chicago. On the other hand, you must have the cooperation of laboratory technicians and physicians who understand the problem, in order to confirm the diagnosis.

Dr. A. C. Krause, Chicago (closing): There is quite a large number of cases of brucellosis infection of the eyes. Sometimes you wonder whether it is worth while to spend so much time on these patients. It requires an immense amount of diagnostic work. You are not always able to trace the history to prove the patient has brucellosis. We feel that these four cases which are presented are positive and not presumptive cases. We have a large number of cases in which the presumptive diagnosis is ocular brucellosis. All the tests and clinical findings are relative and the whole diagnosis must be true, consistant with the data. Strangely enough usually the ophthalmologist must see that the diagnostic work is done. The total number of cases is probably very large. Allan Woods thought he found about 7 per cent of chronic uveitis to be brucellosis. There were about 16 or 17 cases and all but one were presumptive cases of brucellosis. These cases were diagnosed in an institution where they have very elaborate equipment, plenty of help and full time bacteriologists. The main thing to remember is that brucellosis is very common and that the type that affects the eyes is perhaps the porcine rather than the bovine type. There are no particular eye signs to aid in diagnosis. All other eye infections have to be ruled out, which makes it very difficult. The best type of vaccine is made by the Health Department of the State of New York. We have had some of this vaccine which we are using on the two patients whose pictures I showed.

NEW TYPE OF OPERATION SAVES LIVES OF THREE 'BLUE' BABIES

Children Born With Malformed Hearts No Longer Considered Beyond Reach of Surgical Aid, Doctors State

A new type of operation, apparently the first of its kind in medical history, has saved the lives of 3 "blue" babies, according to a report in the May 19 issue of *The Journal of the American Medical Association*. Heretofore, a "blue" baby with heart disease present at birth was considered beyond the reach of surgical aid.

Alfred Blalock, M.D., Professor and Director of Surgery, and Helen B. Taussig, M.D., Associate in Pediatrics, both of Johns Hopkins Hospital, term the operations "sufficiently encouraging to warrant an early report."

"During the past three months," the doctors wrote in *The Journal*, "we have operated on 3 children . . . and each appears to be greatly benefited."

In "blue" babies, a malformed heart causes insufficient oxygen in the blood, resulting in a bluish color to the lips and skin. This deficiency is due to the failure of the blood to obtain adequate oxygen as it flows through the lungs.

The operations were undertaken, the two physicians said, "with the conviction that even though the structure of the heart was grossly abnormal, in many instances it might be possible to alter the course of the circulation in such a manner as to lessen the cyanosis and the resultant disability."

The operation is performed by entering the chest cavity. One of the pulmonary arteries is joined to a large artery leading away from the heart. The greater pressure in this blood vessel forces the blood to flow into the pulmonary

artery and on through the lung. In all 3 cases, the pulmonary artery was too small to allow adequate amounts of blood to get through to the lung. Although the three operations differed in some details, in each instance the surgery greatly increased the volume of blood which reached the lungs, and hence the amount of blood which received oxygen.

The doctors state that the operation is indicated only when there is clinical and x-ray evidence of a decrease in the flow of blood to the lungs.

The first operation was performed on a baby girl, who was too small and weak to permit laboratory studies. She couldn't sit alone, she refused feedings, and she had lost weight. After surgery, her improvement was regarded as "remarkable" by the doctors. Her appetite improved, she gained weight, and is now learning to walk.

The second patient, a 9 year old girl, was so severely incapacitated that she could not walk 30 feet without panting. Two and a half weeks after the operation, she walked 60 feet, rested a short time and walked another 60 feet back to her room.

The third operation was performed on a 7 year old boy. Before surgery, his lips were a dark purple and the child was unable to take even a few steps. "The day after the operation," the doctors said, "he lay in an oxygen tent with cherry red lips. When taken out of the tent his color remained good. His disposition changed from that of a miserable whining child to a happy smiling boy. We were slow to permit him to walk because of a persistent low grade fever, but at the end of the third postoperative week, he could walk 40 feet without panting. He was then allowed to be up for several hours each day and has walked and played in his room."

SEES RISING DEMAND FOR WHOLE BLOOD FOR USE IN MILITARY MEDICINE

Preserved whole blood of group O may be employed by military medicine in the same manner as plasma, administering it in foxholes, on ambulances, aboard ship or in airplanes, Elmer L. DeGowin, M.D., of Iowa City, declares in *The Journal of the American Medical Association* for April 21. However, the complicated problems of equipment, transportation and supply presented by military situations must first be met and overcome.

Dr. DeGowin, in reviewing the importance of blood plasma in civilian and military medicine, stresses the fact that the administration of plasma possessed advantages over whole blood in the greater stability of plasma or serum during storage and in the fact that tests for compatibility were unnecessary before transfusion. However, where both whole blood and blood sufficient quantities, he predicts the rising demand for whole blood in transfusions.

"We are told," he says, "that in military medicine over 90 per cent of the cases of secondary shock are caused by hemorrhage. This is preferably treated by transfusions of whole blood, but plasma may be given successfully in all but the more severe cases. In the correction of preoperative anemia whole blood is indispensable. Transfusions of plasma or serum are indicated in burns, although patients with severe burns frequently develop anemia requiring whole blood transfusions after the stage of shock has been passed. . . .

"The transfusion of fresh whole blood is not practical in many military situations. The time required for collection of blood often coincides with that when the medical personnel is most occupied in the surgical procedures demanded in emergencies. Lack of laboratory personnel and equipment may make difficult or preclude entirely the use of fresh blood. Lastly, the procurement of blood donors not only may be time consuming but may actually be limited by the circumstances. . . ."

Despite the fact that thousands of transfusions of group O blood have been given without an alarming incidence of untoward reactions, Dr. DeGowin says that the point is still debated. However, he continues, "The advantages of such a procedure in military medicine are immense. The group of the blood can be carefully determined at the point of collection, where well trained technicians can perform the tests. At the point of administration the universal blood may then be employed as indiscriminately as plasma, without the delay, equipment or personnel required for laboratory tests. . . .

"In addition to the problems encountered in supplying plasma to medical installations, the military organization faces certain additional problems in handling preserved blood. Collecting depots must be established far enough in the rear to insure an adequate supply of donors. Facilities for accurate blood grouping must be located at the points of collection. Refrigeration must be provided at collecting depots, during transportation and at dispersal points. Accurately timed and frequent transportation facilities between collection depots and dispersal points must be maintained with the necessary communications for activating them. These are not insurmountable problems for a military organization. They have been solved in the British and Russian armies and they are now being solved in the American army. . . ."

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago 2, Illinois, enclosing label from a copy showing your old address. Changes received after the 1st of the month will not go into effect until the following month.

Physical Medicine Abstracts

John S. Coulter, M.D.

RECONDITIONING IN CIVILIAN HOSPITALS

Henry B. Gwynn, M.D., F.A.C.P.
Major, Medical Corps, Reconditioning Consultants Division, Office of The Surgeon General of the United States Army
In MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA, 14;1;16
January, 1945

Physical medicine is only beginning to come into its own. The Baruch Committee on Physical Medicine and other such groups are stimulating research and correlating scientific knowledge on this subject in order to get it firmly established as a fundamental tool of medical therapy. Too often physical medicine is looked upon as merely an orthopedic therapy aid and its role in other surgical, medical and mental conditions completely overlooked. This condition will only be corrected by improvement of instruction in physical medicine in medical schools. It sufficies to state here that physical medicine is a most important section of reconditioning and a large percentage of patients in a general hospital would benefit by scientifically prescribed massage and the use of ultra-violet rays, infra-red rays, diathermy, whirlpool baths, faradic and galvanic stimulation, and other such measures. A most important feature of a physical therapy department should be the remedial gymnasium equipped with medicine balls, skipping ropes, weights, pulleys, shoulder wheels, horizontal ladders, rowing machines, Indian clubs and stall bars.

Occupational therapy has long been used in mental hospitals, but few general hospitals have established departments.

MODIFIED TREATMENT FOR FRACTURE OF THE HEAD OF THE RADIUS

Captain R. W. Postlethwait,
Medical Corps, Army of the United States
In THE AMERICAN JOURNAL OF SURGERY, 67;1;80
January, 1945

An accurate determination of the time required for complete recovery is very difficult in these cases, in both military and civilian patients. Nevertheless, with joint aspiration, procaine injection and immediate active motion, the patient is rarely absent from duty more than three to five weeks and may not lose even one full day. This is in marked contrast to those treated by immobilization, when the soldier may need seven to ten weeks' treatment before returning to duty.

SUMMARY

Fractures of the head of the radius which do not show marked displacement will recover more promptly and completely if treated by joint aspiration, procaine injection into the joint and immediate active motion. The aspiration of the hemarthrosis and the injection of procaine will produce relief of the severe pain which occurs soon after injury, and will permit earlier increase in the range of motion.

THE TREATMENT OF FRACTURES OF THE HUMERUS WITH THE HANGING CAST

R. Beverly Raney, M.D., Durham
In THE NORTH CAROLINA MEDICAL JOURNAL, 6;2;91
February, 1945

For about two years we have treated almost all

fractures of the humerus above the supracondylar level with the hanging cast and shoulder exercises.

Active exercises form an essential part of the hanging cast treatment. The patient is urged to carry these out twice daily, beginning in a gentle fashion immediately after application of the cast, and continuing more vigorously until full function of the extremity is restored. The shoulder exercises are of two types, circumduction and rotation, and are carried out with the patient standing and leaning forward. In doing the circumduction exercise, the patient swings the entire extremity around in as large a circle as he can make. In doing the rotation exercise, he turns the extremity about the longitudinal axis of the humerus through as great an angle as possible. After removal of the cast — at a period varying widely from about two to about twelve weeks after its application — exercise of the shoulder in other positions is added, as are exercises of the elbow and wrist.

THE ABUSE OF REST AS A THERAPEUTIC AGENT

In PROCEEDINGS OF THE STAFF MEETINGS OF THE MAYO CLINIC, 20;6;91
March 21, 1945

F. H. Krusen, M.D., Section on Physical Medicine: Recently there has been renewed interest on the part of the medical profession, in problems of rest versus activty in the treatment of the sick. Two events have contributed toward this renewal of interest. One was the presentation of a symposium on the abuse of rest at the last meeting of the American Medical Association. The other event was the establishment in our Army hospitals of convalescent and reconditioning programs which utilize physical and mental activities for patients more fully than has ever been the case in civilian hospitals.

In the past certain great medical leaders have stressed, perhaps unduly, the importance of rest as a therapeutic measure. Three vigorous advocates of rest as a form of therapy stand out in the memory of present-day physicians. They are Weir Mitchell, Hugh Owen Thomas and Allen K. Krause.

The doubts which are now being expressed concerning the wisdom of blind and often unreasoning adoption of unlimited amounts of rest in therapy, simply because of the support given to rest therapy by great physicians of a less enlightened age, call for a careful review of our modern knowledge concerning this subject.

Blind following of the great physicians of the past has always been one of the weaknesses of the medical profession. Yet in guarding against this tendency we must not hurriedly cast aside proved and valuable methods of therapy.

Practically every patient presents problems of a physical and of a mental nature — problems of the soma and of the psyche.

Our Army physicians have realized the importance of rapid restoration of sick and disabled soldiers both physically and mentally. Their newly developed convalescent and reconditioning programs bid fair to revolutionize the concepts of physical and mental rest and activity now extant in civilian hospitals.

THE SCALENUS ANTICUS SYNDROME WITH AND WITHOUT CERVICAL RIB

In PROCEEDINGS OF THE STAFF MEETINGS OF THE MAYO CLINIC, 20;5;69
March 7, 1945

J. G. Love, M.D., M.S. in Surgery, Section on Neurosurgery: Cervical ribs are of infrequent occurrence.

All patients who have cervical ribs do not require treatment. In fact, many persons have cervical ribs and never know it. Others learn the fact for the first time when a roentgenogram of the thorax or neck is made for some entirely unrelated reason. Patients with mild symptoms often are benefited by conservative measures, such as lessening the load on the involved shoulder girdle, application of heat locally and sleeping with hands above the head or prone with the arms over the sides of a narrow bed. Others require analgesic drugs such as acetylsalicylic acid.

When it has been determined that more radical measures are necessary for relief, scalenotomy with or without removal of the rib is indicated. The anterior approach is the operation of choice even if the rib is to be resected.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave.. Chicago, Frank P. Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

STATE REGULATIONS FOR INDUSTRIAL HOUSEKEEPING

New regulations relative to industrial housekeeping became effective on September 1st, 1944. These regulations cover housekeeping, ventilation, lighting, water supply for human consumption, toilet rooms, wash and locker rooms, rest rooms for women, and lunch rooms. These requirements are known as the Part "G" Rules and Regulations and copies may be had by writing to Mr. Louis J. Meyer, Chief State Factory Inspector, Division of Labor, 205 West Wacker Drive, Chicago 6, Illinois.

THE STATE AND PROVINCIAL HEALTH AUTHORITIES OF NORTH AMERICA HOLD ANNUAL MEETING ON APRIL 13TH[1]

At the meeting of the State and Provincial Health Authorities of North America on April 13th, Dr. Townsend, Chief of the Industrial Hygiene Division, U. S. Public Health Service, indicated that reconversion would not result in a diminution of industrial health problems but would probably result in an actual increase in the same. For this reason, he felt that the activities and services of the Governmental Industrial Hygiene Division in their relationship to State departments should be augmented, especially as regards the smaller plants, to include health education activities, the better detection and control of occupational hazards, better training of professional personnel in industrial medicine and hygiene, further development of industrial nursing, industrial dentistry, and mental health problems. Dr. Townsend hoped that appropriate legislation would be forthcoming and that a national advisory commission on industrial health would be appointed to include representation by management, the medical profession, public health departments, and labor.

In conformity with these plans, the following resolution was accepted at the above meeting:

"Whereas industrial hygiene is an important part of public health activities which not only prevents the adverse effect of certain industrial environment upon the working population, but also, because of the close association with this large group which industrial hygiene activities entail, presents an unequaled opportunity to bring to this important group of our population the various facilities provided by public health authorities, and

"Whereas there should be no diminution in industrial hygiene work after the war, but that there should be an increase in this phase of public health work, and

"Whereas state aid for industrial hygiene activities is now provided through funds furnished by Title VI and some Lend-Lease activities, which it is expected will be considerably decreased after the war,

"It is therefore Resolved by the Association of State and Territorial Health Officers that an appropriation for state aid for industrial hygiene activities be provided through the Industrial Hygiene Division of the U. S. Public Health Service by direct Congressional appropriation."

1. Abstracted from the "Industrial Hygiene News Letter", Vol. 5, No. 4, April 1945.

DEATH RATE OF WOMEN REDUCED[2]

Statistics released by the Metropolitan Life Insurance Company revealed that, between 1939 and 1944, the death rate from all causes for insured women was reduced by one-sixth. This company credits part of this reduction to the improved industrial hygiene and safety practices in industry. The great influx of women workers into industry during this period resulted in a program of safer work practices for women, health education, supervision of proper work clothing, protective devices, restrictions against heavy lifting, supervision of pregnant women employed and control of environmental hazards.

Dr. Anna M. Baetjer of the Johns Hopkins School of Hygiene and Public Health, discussed the health of women in industry at a sectional meeting of the American Industrial Hygiene Association in Washington on February 27th. She stated that women have only from 50 to 60% of the working strength of men and that the selection by industry of large women to do heavy work is fundamentally unsound because there is little correlation between their size and strength. Since the average woman worker has many household duties and burdens, she is predisposed to fatigue. Dr. Baetjer is of the opinion that women have no special susceptibility to stress and strain injuries but that the increased incidence of these is probably due to unfamiliarity with the methods and processes of industry. She questions whether women on the job are more emotionally unstable than men and also that women are more susceptible to toxic substances or to industrial dermatoses. However, pregnant women should not be exposed to toxic chemical substances, especially lead, which has a deleterious effect on the reproductive organs. Although the incidence of sickness is higher among women, the average duration of sick leave is less. Middle-aged women seem to have the best record as regards short-term absenteeism due to sickness.

INDUSTRIAL OPHTHALMOLOGY[3]

Columbia University inaugurated a course in industrial ophthalmology on May 7th. This was done in cooperation with the National Society for the Prevention of Blindness.

Sight saving programs in industry are being augmented because of the many older workers with diminished vision employed during the war and the many new employees who are unfamiliar with modern machinery and tools. Job analyses for visual requirements are conducted in some plants in connection with plant safety methods. Faulty vision or poor illumination are believed to cause about 25% of accidents in industry.

SILVER SOLDERING AND CADMIUM[4]

A number of workers in a silver manufacturing plant in the Kansas City area, complained of respiratory irritation leading to an investigation of the fumes given off during the soldering process. Fluorides were first suspected, but it was found that air samples showed the concentration of fluorides to be at a safe level. Further testing by means of the electrostatic precipitator impinger method, showed a yellowish color to the smoke and fumes collected which was proved to be due to cadmium. Analysis of various solder samples revealed, in some instances, a rather high cadmium content. The hazard was minimized by installing suitable exhaust ventilation to collect fumes at the point of origin and recommendations were made to develop a satisfactory silver solder which would not contain cadmium.

RECONDITIONING PROGRAM IN ARMY HOSPITALS

Fundamentally, physical and occupational therapy for war and industrial casualties are based on similar concepts and purposes. A future trend in general hospitals, no doubt, will be toward a development of departments adequately staffed to carry out the necessary procedures.

The following abstracts are of interest in this connection:

Reconditioning Program in Army Hospitals. W.E. Barton, Occup. Therapy 23:174 (Aug.) 1944*

Barton states that the reconditioning program in Army hospitals is designed to return more men to duty physically and mentally fit. It seeks to achieve this by

2. Abstracted from the "Industrial Hygiene News Letter", Vol. 5, No. 4, April 1945 and Vol. 5, No. 3, March 1945.

3. Abstracted from the "Industrial Hygiene News Letter", Vol. 5, No. 4, April 1945.

4. Abstracted from the "Industrial Hygiene News Letter", Vol. 5, No. 3, March 1945.

a planned program of progressive physical training, educational reconditioning, occupational therapy and recreation.

Occupational therapy plays an important role in the reconditioning program. The ambulant convalescent hospital patient is the chief concern of the therapeutist. Under medical direction in the orthopedic shop, interesting work activities extend the gains in function and strength of damaged parts that received attention up to this point in physical therapy and in the remedial gymnasium. In the shop for neurophyschiatric patients, occupational therapy prevents morbid introspection with somatic reverberations of emotional upheaval, or through creative achievements reestablishes a sense of personal worth or assists in the assimilation of the individual into a social group.

Through the cooperation of the American Red Cross, volunteer assistants are procured with handicraft experience who under the supervision of the occupational therapeutist may bring opportunities for diversional work activity and even a limited amount of therapeutic occupation to the bed patient. The scarcity of trained workers makes this arrangement imperative.

In the advanced reconditioning section, gardening, work projects indoors and on the grounds, carpentry and the handicraft shop offers physical conditioning as well as hobby outlets.

The establishment of a position for an occupational therapeutist in the reconditioning division in the office of the service command surgeon in each of the various service commands throughout the country should make it possible to exercise field supervision over the program as it operates in hospitals. This has been possible only in a limited way up to the present time.

At the two Army hospitals designated for the care of the blind, occupational therapeutists are doing an important job. They aid in the development of perceptual skills. What is even more important, the blind regain self confidence through the knowledge that they can still perform useful work.

In the five hospitals designated as amputation centers, the occupational therapeutists have undertaken the task of rehabilitation of men with amputations of an arm. Instruction includes the retraining of the remaining extremity to perform added function and the full use of a prosthesis.

Work in arts and crafts is provided as a section of the recreational program. Proof of the interest of patients in craft work is the fact that many times men are found busily engaged in the ward, even in the late evening, in making belts, yarn purses or leather billfolds.

Convalescent patients demonstrate an interest in activities many of which the graduate in occupational therapy would be unable to direct, even if one were available. These interests include radio construction, repair and code practice, motor mechanics, gasoline and diesel engine repair, metal and wood shop work with machine operations, printing and photography. The convalescent patient with talent in art or sculpture seeks expert instruction. Fly tying, model plane and model tank building and work with plastics and with leather are also popular.

The experimental introduction into the hospital of industrial processes, such as pioneered by the Navy at St. Albans, is deserving of careful study. In this method, the manufacturer brings an industrial process to the hospital and supplies the equipment, materials, instruction and supervision. The company must enter into an individual agreement with the patient for compensation.

Occupational Therapy in Orthopedic War Injuries: S. T. Snedecor, Occup. Therapy 23:179 (Aug.) 1944.*

Snedecor points out that after a military surgical operation there is special need for rehabilitation treatments and exercises which will aid in the restoration of function to the limb. There is a place for occupational therapy in this retraining program for injured arms and legs.

At Valley Forge General Hospital injuries to the arms and legs cause by far the greatest proportion of admissions, and so the orthopedic service is always the largest. To back up orthopedic surgery and get real functional results, completely equipped departments of physical and of occupational therapy are necessary. Furthermore, the two should be closely integrated both as to equipment and as to personnel. More than that, the patients could also profit from recreational craft work which would fill in more of their day. Such craft work would be especially valuable if there were co-ordination between the strictly therapeutic work and the recreational phase. For example, in the morning a man with an injured hand would spend an hour at cabinet making under strict supervision. In the afternoon he would likely be willing to spend a couple of more hours building a model airplane, the most popular of all craft work. Here an intelligent occupational therapeutist would follow up and instruct him how to get the most benefit out of this recreational work.

Superior personnel is the primary prerequisite for a good department. Occupational therapy aides not only must be well trained but must have a high order of intelligence and adaptability because they have many problems to meet. Injuries are not standardized. The bullets and shell fragments strike the arms and legs in every conceivable location. A great deal of time and thought must be spent with these men to get their fingers working in the right way — to make them use the thumb so that opponent action will develop or to stress flexion at the metacarpophalangeal joints of the last two fingers.

At Valley Forge General Hospital there is available the physical plant and the competent personnel for a complete rehabilitation program. Satisfactory results are obtained with reconstructive surgery.

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*War Medicine, Vol. 6, No. 5, Nov. 1944.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

★ WAR SERVICE ACTIVITIES ★

CHAMPAIGN

Major John R. Powell has been retired from the Army and is now living in Champaign.

COOK

Major S. W. Simon, former resident physician and surgeon in Chicago, will soon return to the United States after completing a 29 months tour of duty in the Mediterranean Theater of Operations. He has been overseas since December 1942, in Palestine, Egypt, Tunisia, Algeria, Libya, Sicily and Italy. Early last January Major Simon received the coveted Bronze Star Medal after he led his medical detachment in stamping out a civilian smallpox epidemic before it reached the thousands of combat airmen of the 15th Air Force who were on duty at nearby airfields. As a result of his extensive overseas duty he is now also authorized to wear the American Defense ribbon, and the European-African-Middle East ribbon with four campaign stars, in addition to his flight surgeon's wings.

Comdr. J. Roscoe J. Miller, dean of Northwestern University Medical School was recently appointed medical director of the Northwestern railway. He will assume his duties with the railroad upon completion of his navy assignment.

The Surgeon General's office has announced the promotion from Major to Lt. Colonel of Arthur E. Diggs of Chicago and A. A. Bolotin of Chicago and Hall I. Sippy of LaGrange.

Lt. Comdr. Louis B. Newman, head of the Department of Physical Medicine at the Seattle Naval Hospital was recently appointed by the American Congress of Physical Medicine as the Navy member of the Army, Navy, Public Health and Veteran's Administration. Dr. Newman is the only member of the Committee. His appointment was approved by Rear Admiral Ross T. McIntire, Surgeon General.

Among the Chicago Doctors participating in the medical activities at Iwo Jima were Comdr. James E. Lebensohn and Lt. Comdr. Chas. A. Fleischner.

Captain Harry Leventhal was awarded the bronze star for meritorious services against enemy action. Capt. Leventhal is attached to the 4th Armored Division of the Third Army under General Patton.

Major Daniel Syndacker is with the group of medical officers who set up a hospital on a site abandoned by Jap medics on Mindanao Isle, where a large medical dump was discovered. Supplies of saline solution were put to work immediately on the few heat exhaustion cases which had developed in th Mindanao campaign. Major Snydacker is chief of the eye, ear, nose and throat section of the 99th Evacuation Hospital 8th Army Unit.

Major Alex S. Tulsky was recently awarded the Bronze Star for meritorious service during the period June 26th, 1944 to November 1944 in France.

Lieut. Col. James H. Wallace passed through Chicago recently. He has been in the South Pacific for some time and reports in Washington shortly.

The following army promotions of physicians have just been announced; from Major to Lieut. Colonel; Ralph Fouser, Louis River and Maurice Lev.

Lieut. Col. W. J. Potts has recently been relieved as chief of the surgical section of the 25th Evacuation Hospital serving in the New He-

brides. Lt. Col. Robert F. Sharer has been appointed in his place. Col. Potts has been appointed as consulting surgeon to the South Pacific area.

The Silver Star Medal was recently awarded to Lieut. (jg) Edgar M. Rector, formerly of Ann Arbor, Mich., son of Doctor Frank L. Rector of Chicago, "for conspicuous gallantry and intrepidity in action against the enemy on the islands of Saipan and Tinian, Marianas group, while serving as a medical officer with an infantry battalion. On July 3, 1944, when the entire front line was forced to withdraw because of heavy enemy fire, Lieutenant (junior grade) Rector remained forward of our lines until late at night, administering first aid and plasma to the wounded until they could be evacuated. Later on Tinian, despite a painful wound in his hand, he moved forward under fire to aid a wounded Marine who could not be evacuated. Lieutenant (junior grade) Rector received a serious chest wound at this time. His outstanding courage and disregard for his own safety were in keeping with the highest traditions of the United States Naval Reserve." Dr. Rector has also been the recipient of the Silver Star, the Purple Heart and a Presidential Unit citation. He graduated from Harvard Medical School, Boston, in 1941 and entered the service Nov. 1, 1943.

Lieut. Paul Ashley, formerly of Chicago Heights, Ill., was recently awarded the Bronze Star "for distinguishing himself by heroic and meritorious achievement in connection with operations against the enemy as division medical officer aboard an aircraft carrier on Nov. 25, 1944 off the coast of the Philippines while this vessel was under attack by Japanese aircraft. During and after a heavy aerial assault by Japanese aircraft he displayed exceptional ability and untiring devotion to duty which contributed greatly to the recovery of many wounded. His relentless zeal in the execution of his duties was exemplary and at all times in keeping with the highest traditions of the United States Naval Service." Dr. Ashley graduated from Rush Medical College, Chicago, in 1937 and entered the service Nov. 30, 1942.

Lieut. (jg) Francis Ambrose Lagorio Jr., formerly of Chicago and now battalion surgeon of the 7th Marines, 1st Division, has been commended for heroism in the bitter fighting on Peleliu Island last September and October by the Marines' commanding officer, Lieut. Gen. H. M. Smith. The citation states that "Lieutenant Lagorio organized and directed stretcher bearers to the front and to the rear. . . . He . . . contributed greatly to the ultimate combat efficiency of the battalion." Dr. Lagorio graduated from Loyola University School of Medicine, Chicago, in 1943 and entered the service early in 1944.

GRUNDY

Jackson D. Beatty of Morris has been promoted from Major to Lt. Colonel according to word received from the Surgeon General's office.

KANE

The Surgeon General's office announces the promotion from Major to Lt. Colonel of Walter L. Carleton of Elgin and George Plain of Aurora.

LAKE

Lt. Comdr. Aaron A. Topcik, Waukegan, Ill., attached to the 6th marine division, had set up his hospital in an abandoned seed mill when the first patient, who had been hit by rifle fire, was brought in. An operation was begun. A sudden blast near-by shook the old mill and plaster fell on the operating table. "We protected the patient with our bodies and then moved into another corner," Topcik said. "Everything turned out well." The 40 year old officer, who was a physician in Waukegan for eight years, insists his hospital be close to the front lines to avoid delays. In 30 hours, within a mile of the front, Topcik and two assistants performed 12 operations and attended 60 patients.

MARSHALL

Dr. Lindley L. Bufkin of Wenona, now stationed in Belgium as a surgeon with the U. S. Army, has written a resume of his injuries and his present physical condition, as follows:

"After several months of rather 'hard-sledding' I now have a rather desirable 'set-up.' I am in excellent physical condition. The old heart is o.k. and I have 100% function and no pains anymore in my right arm. I get around without a limp, however I don't think I could do any more of those 25-mile hikes with a full pack. So far the score has been: (1) injured knee; (2) paralyzed arm three months, pains, nine months, 100% now; (3) skull fracture; (4) brain concussion; (5) ear partly torn off."

TAZEWELL

Major Howard A. Lowy, formerly of Creve Coeur, Ill., and now serving as assistant to the surgeon at the headquarters of the Chinese combat command near Kunming, was recently awarded the Presidential Unit Citation for his service with the India-China Wing of the Army Transport Corps and is also entitled to wear two bronze stars on his Asiatic-Pacific Campaign Ribbon, one for service in India and the other for service in China. Dr. Lowy graduated from

the University of Illinois College of Medicine, Chicago, in 1940 and entered the service in October, 1942.

WARREN

Lt. Comdr. James W. Firoved of Monmouth just returned after two years in the South Pacific. He is going to Philadelphia for special training.

GENERAL

BOND

J. D. Chittum, dean of Bond County's physicians at the age of 84, was elected president of the Bond County Medical Society at the May meeting. Dr. Chittum has been in practice 54 years. His election to the leadership in Bond County was in recognition of his achievement in carrying the heavy medical burden of a large community under the stress of war-time doctor shortages, as well as in recognition of his long service.

BOONE

John H. Brantley, Poplar Grove, recently completed fifty years in the practice of medicine.

BUREAU

Bureau County lawyers and their wives recently entertained members of the Bureau County Medical Society and the Woman's Auxiliary. F. J. Spaab of Chicago, F.B.I. agent was the guest speaker. Rep. Fred Rennick of Buda, President of the Bureau County Bar Association presided.

COOK

The twelfth annual meeting of the health division of the Council of Social Agencies of Chicago was held in the ballroom of the Standard Club, May 16. Among the speakers were Drs. Robert S. Berghoff on "Tuberculosis Control in the State of Illinois including County of Cook," and Reginald M. Atwater, New York, "Realistic Planning for Community Health."

R. Wendell Harrison, Dean of the Division of the Biological Sciences of the University of Chicago, has been appointed to the Committee on Publications in Biology and Medicine of the University of Chicago Press. Dean Harrison has been on the faculty of the University since 1937, previously having taught at Washington University (St. Louis) and Southern Methodist University. He is a member of the editorial board of the *Journal of Infectious Diseases*, and widens the scope of the Committee by bringing to it his specialized interests not only in the fields of bacteriology and immunology, but in oral bacteriology and dental caries. Other members of the Committee include: William H. Taliaferro, Eliakim Hastings Moore Distinguished Service Professor of Parasitology, Chairman of the Department of Bacteriology and Parasitology, Adviser to the President in Biological Sciences; Franklin C. McLean, M.D., Professor of Pathological Physiology; C. Phillip Miller, M.D., Professor of Medicine; Thomas Park, Associate Professor and Secretary of the Department of Zoology and Associate Dean of the Division of the Biological Sciences; Lester R. Dragstedt, M.D., Professor of Surgery. The Committee advises the University of Chicago Press of research suitable for publication, plans needed texts, and acts as a publishing outlet for valuable work now being done throughout the country in the biological and medical fields.

Max Thorek delivered the Commencement Address at the Iowa Wesleyan College, Sunday, May 27, and received the Honorary Doctor of Science Degree on that occasion. He spoke on "Medicine in a Mad World."

Colleagues of the late Dr. Maurice Lamm Blatt on the pediatric staff of the Cook County Hospital are sponsoring the establishment of the Maurice Lamm Blatt Memorial Fund. Proceeds would be used to create either an annual prize for a resident or intern doing outstanding work in pediatrics or, if sufficient funds are forthcoming, a fellowship, scholarship or lectureship in pediatrics. Three categories have been designated for membership in the project: any amount up to $25, contributing membership; $25 or more, sustaining membership, and $100 or more, life membership. Checks should be made payable to Dr. Meyer A. Perlstein, chairman of the Maurice Lamm Blatt Memorial Fund, 185 North Wabash Avenue, Chicago 1.

Dr. Herman L. Kretschmer, President of the American Medical Association, has been named chairman of a committee to raise funds to pay for transferring the 276 ton Louis Pasteur Memorial statue from Grant Park to the Medical Center district on the west side, newspapers reported May 14. Ray McCarthy, president of the Medical Center Commission, said title to the memorial has been conveyed by the Chicago Park District Board. The Pasteur Memorial, a 51 ton statue on a 225 ton base, stands on the west lawn of the Chicago Natural History Museum.

The Johnson and Johnson Research Foundation has created an annual award at Northwestern University consisting of a silver medal and an honorarium of $250 to be known as the Malcolm T. MacEachern Award. The award honors Dr. MacEachern, associate director of the American College of Surgeons and director

of the program in hospital administration at the school. The award was announced at a National Hospital Day celebration in the auditorium of the American College of Surgeons, May 12, simultaneously with an announcement of a five year grant of $75,000 to the program in hospital administration, including scholarships, also from the Johnson and Johnson Research Foundation, to supplement $15,000 granted two years ago. A renewal of scholarship grants by the American Hospital Supply Corporation was also announced. Since the program in hospital administration was started in September 1943, 113 students coming from seventeen states have enrolled in one or more of the nine new courses offered, in addition to taking background courses in other departments of the university. An advisory committee, board of consultants and faculty consisting of authorities in the hospital field assist in formulating policies of the program, conduct the courses and demonstrations and supervise the internships required before conferring degrees. Dr. Irvin Abell, Louisville, Ky., chairman of the board of regents of the American College of Surgeons, spoke on "The Significance of National Hospital Day, 1945."

Robert S. Berghoff, M.D., President-Elect of the Illinois State Medical Society was recently elected President of the Staff of Mercy Hospital.

Mercy Hospital is the oldest hospital in Illinois, established in 1850, 95 years ago. Its first location was on the North Side at Rush, foot of the Chicago River in an old frame building called "The Luke House." Three years later, Mercy Hospital had to leave the old frame structure and moved to "Tippecanoe", another frame building on Wolcott Street (now State Street) and Kinzie Street. It remained there only six months and then moved to Van Buren and Wabash where it took care of Chicago's sick for ten years, until 1863. In that year it moved to its present location at 26th and Prairie Avenue. It has been at its present location since that time. The Sisters of Mercy are celebrating their 100th anniversary of Centennial this year. Mother Genevieve is the Superior and Sister Mary Timothe is the superintendent of Mercy Hospital.

Charles F. Glore, president of Glore, Forgan & Co., investment banking firm, 135 S. La Salle st., was named general chairman of the Illinois division of the American Cancer society, to head a drive that organization launched May 29 to raise $560,000 for cancer control and research.

This quota set for Illinois is part of a 5 million dollar fund the society is seeking nationally to organize what Dr. John A. Wolfer, chairman of the group's local medical advisory committee, said will be the first comprehensive attack "on the nation's No. 2 killer."

On the basis of present knowledge, Dr. Wolfer asserted, one-third of the 17 million Americans destined to die of cancer could be saved thru early detection and treatment.

Dr. Herman N. Bundesen, president of the Chicago board of health, has announced the appointment of Dr. William David Jack, 105 E. Delaware pl., to the board's consulting staff. Dr. Jack, senior physician of Henrotin hospital and associate professor of internal medicine at Loyola university, replaced the late Dr. Irving S. Cutter, former health editor of The Tribune, on the consulting staff.

JEFFERSON-HAMILTON

Jefferson-Hamilton County Medical Society met at the Good Samaritan Hospital, Mt. Vernon in April with Dr. Richard J. Payne discussing "Bronchoscopy, Its Indications, Use and Limitations" and Dr. A. H. Diehr talking on "Skeletal Traction." Following the scientific program a buffet luncheon was served by the nurses and Sisters of St. Francis.

KNOX

Mrs. Fred Hambrecht was hostess to members of the Woman's Auxiliary to the Knox County Medical Society on May 1st.

LAKE

The Lake County Medical Society sponsored a benefit performance by the Waukegan Philharmonic Orchestra and Chorus on May 9th to raise money to purchase a mobile chest x-ray unit for the Lake County Tuberculosis Association.

LA SALLE

Nearly 200 were present at the dinner meeting held on April 26th by the LaSalle County Medical Society in honor of the wives of the doctors in service. Seven of the wives were present and told of the whereabouts of their husbands. Joseph T. O'Neil of Ottawa, presided and the principal speaker was Canfield Cook, Canadian aviation expert who talked on "Aviation in the War and in the Post-War Era."

MACON

Two Decatur doctors, Will C. Wood and M. D. Pollock, received 50-year buttons from the Illinois State Medical Society at the Macon County Medical Society meeting held on April 24th. The buttons with certificates of service were awarded by I. H. Neece, Councilor for the Seventh District. Dr. Wood began practise in Decatur in 1898, after two years in Chicago and Dr. Pollock began practise in Decatur in 1895.

L. W. Avery of the University of Illinois College of Medicine spoke on "Mental Changes of Old Age."

MADISON

Paul H. Pernworth, Venice, addressed the student branch of the American Pharmaceutical Association at the St. Louis College of Pharmacy, St. Louis, March 22 on "Practical Application of Certain Pharmaceutical Agents to Clinical Medicine and Surgery."

Major August Daro, Medical Corps, Chief of obstetrics and gynecology at Scott Field, parent radio school of the A A F Training Command, recently addressed the Madison County Medical Society on "Obstetrics of the General Practitioner." The meeting was held at Granite City. Before entering the service three years ago, Major Daro was chief of obstetrics at Cook County Hospital, Chicago.

MERCER

Nellie E. Marsh of Aledo was elected President of the Mercer County Medical Society at the annual meeting held in April. C. M. Murrell of Sherrard was elected Vice-President and V. A. McClanahan of Aledo was reelected Secretary-Treasurer for the 25th year. Harold M. Camp was the principal speaker, presenting a talk on "Postwar Medical Service."

ROCK ISLAND

More than 200 women, representing different organizations of Rock Island county, attended the annual tea of the Woman's Auxiliary to the Rock Island County Medical Society held on April 25th. Mrs. George W. Koivun introduced the guest speaker, Dr. Rudolph G. Novick, Director of the Illinois Society for Mental Hygiene, who spoke on the subject "Why Women are Nervous."

ST. CLAIR

George H. Van Dusen became superintendent of the Christian Welfare Hospital, East St. Louis, on April 5th.

UNION

The members of the Union County Medical Society have completed physical examinations for the five elementary schools in the county, assisted by the county school nurse. A total of 283 children were examined, 53 of whom were found to have outstanding defects. Parents of these children were urged to take them to their family physicians for further advice and treatment.

WAYNE

W. A. Hancock, 74, well known Fairfield physician who has practiced in Wayne County for 50 years was guest of honor at a dinner and meeting sponsored by the Wayne County Medical Society on April 22nd. Andy Hall, Councilor, presented the honored guest with the fifty-year medal and the certificate from the Illinois State Medical Society. Other talks were made by Dr. O. P. J. Falk of St. Louis, a long-time friend of Doctor Hancock. Dr. C. L. Peterson, pastor of the First Methodist Church, gave the address of welcome and the benediction. More than 100 attended the dinner, including many of Doctor Hancock's friends from other cities and states.

MISCELLANEOUS

The Illinois Tuberculosis Association has announced the following as its new officers for the coming year:

President, W. J. Bryan, M.D., Rockford
Vice-President, Arthur S. Webb, M.D., Glen Ellyn
Vice-President, Edward A. Jones, Dixon
Secretary, George Reid, Winchester
Treasurer, Robinson Bosworth, M.D., East St. Louis

Executive Committee:

Kenneth G. Bulley, M.D., Aurora
Harry A. Hall, Waukegan
D. F. Loewen, M.D., Decatur
F. M. Meixner, M.D., Peoria
E. F. Moore, M.D., Collinsville
Gail Wanless, Springfield
J. K. Williamson, Nashville
Lyle Wilcox, Sterling

The Central Illinois Society of Ophthalmology and Otolaryngology was recently formed for the benefit of those practicing in these specialties in the central part of Illinois. Officers include Drs. Watson Gailey, Bloomington, president; Walter D. Stevenson, Quincy, and Stuart Broadwell Jr., Springfield, vice president, and William F. Hubble Jr., Decatur, secretary-treasurer. The membership is limited to 50 and is open to members of the national board or those eligible to membership in it. Three meetings a year will be held, the first of which was in Bloomington, April 21-22.

MARRIAGES

Martin Fishkin to Miss Jewel Rosenthal, both of Chicago, March 10.

Harry S. Gradle to Miss Audrey Hayden, both of Chicago, April 28.

DEATHS

Harry Ferris Beebe, Grayslake; Chicago Homeopathic Medical College, 1894. Had practiced in Antioch for 36 years before going to Grayslake. Served in World War I and later served 5 years as head of the

Chicago Children's orphanage. Died in his home after an illness of 8 months May 17th at the age of 78.

Simon W. Brownstein, Barnes Medical College, St. Louis, 1899. Had been chief of clinics for the Chicago Board of Health for the last 18 years. Died May 7th, aged 68.

Joseph C. Dodds, retired, Champaign; Northwestern University Medical School, 1889. Was former state medical director of the Modern Woodmen of America and a division surgeon for the Illinois Central Railroad. Died May 5 at the age of 80.

John Vernon Ferrell, Eldorado; Chicago College of Medicine and Surgery, 1917. A past president of the Southern Illinois Medical Society, he was a practicing physician in Eldorado for 28 years. Died May 8th, aged 56 following a long illness.

Heber M. Goodsmith, Evanston; College of Physicians and Surgeons of Chicago, 1887; formerly member of the medical staff of the Metropolitan Life Insurance Company and medical director of the Illinois Bell Telephone Company in Chicago. Died April 9, aged 79, of chronic myocarditis.

Charles Morgan McKenna, Chicago; Rush Medical College, 1905; professor and head of the division of urology in the department of surgery at the University of Illinois College of Medicine which he had joined in 1913 as instructor in senior surgery; specialist certified by the American Board of Urology, Inc.; member of the American Association of Genito-Urinary Surgeons and the Institute of Medicine of Chicago; president in 1922-1923 of the Chicago Urological Society; member of the American Urological Association and past president of the North Central Branch; fellow of the American College of Surgeons; a captain in the medical corps of the U. S. Army during World War I; head of genitourinary surgery at the Research and Educational Hospitals and St. Joseph Hospital; attending urologist at the Norwegian-American Hospital; attending urologist at the Cook County Hospital from 1927 to 1938. Died May 13th, aged 65, of coronary occlusion.

Maximillian Malina, Chicago; Chicago College of Medicine and Surgery, 1911. Had practiced medicine in Chicago more than 30 years. Died in his home May 23rd at the age of 63.

Carl G. Muehlmann, Pekin; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1900. Also a pharmacist; for 20 years a surgeon for the Illinois Central Railroad; surgeon for the Pekin Terminal Railroad; for many years served on the U. S. Pension Board; until the time of his death examining physician for the U. S. Civil Service applicants; health officer of Pekin. Died in the Pekin Public Hospital March 13th, aged 80.

Sol E. Ravitz, Chicago; University of Nebraska College of Medicine, 1920. Dermatology Department, Mercy Hospital and Loyola University School of Medicine. Died, May 19th of a heart attack, aged 49.

Nevin G. Stevenson, Sparta; Chicago Homeopathic Medical College, 1895. Had built and had charge of the Community Hospital in Sparta where he died, April 28th at the age of 74.

Edwin Wilfred Stubbs, retired, Aurora; Marion-Sims College of Medicine, St. Louis, Mo., 1897. Died at Copley Hospital, Aurora, May 26th, at the age of 81.

Paul August Teschner, Chicago; Marquette University School of Medicine, Milwaukee, Wisconsin, 1924. Assistant Director of the Bureau of Health Education and Public Instruction of the American Medical Association. Assistant surgeon, National Home Service in tuberculosis at Milwaukee; had practiced medicine in Gillette and Cecil, Wisconsin; formerly on staff of Wisconsin Anti-Tuberculosis Association as examiner and consulting physician. Died in his home May 24th at the age of 48.

Henry C. Woltmann, Jacksonville; The Hahnemann Medical College and Hospital, Chicago, 1908. Member of the Morgan County Tuberculosis Sanatorium and former president of the Morgan County Tuberculosis and Health League. Had practiced medicine in Jacksonville for nearly 40 years; had served as attending physician at Oaklawn Sanatorium for 6 years. Died suddenly at his home April 18th at the age of 77.

GENERAL RANKIN ADDRESSES GRADUATING CLASS AT ARMY MEDICAL CENTER

Speaking on "Elements of Progress in Military Surgery," Brigadier General Fred W. Rankin, USA, Chief Consultant in Surgery to The Surgeon General, in an address to the graduating class of the Army Medical School, stated that mortality rates from serious injuries such as those involving the head, chest and abdomen, have been reduced by 50 percent and the reconstruction and rehabilitative surgery now being performed to correct the disfiguring and crippling consequences of grave injuries is little short of miraculous.

Many factors, he pointed out, are involved in the establishment and maintenance of this unparalleled record but more important than any other is the emphasis placed by the Army on a high level of professional competence and the careful and determined effort to place this professional competence where it will do the most good. As an example he cited the results of an analysis made of the assignments of surgeons either certified by specialty boards or with equivalent qualifications. This showed, said General Rankin, that "well over 95 percent are performing their appropriate functions while most of the remaining have assumed positions of even greater responsibility which their executive capacity permits and necessity dictates."

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.
Peoria, Ill.

War always has prompted the writing of poetry. Of the poems written during this war very few have impressed us as has Ritual, written by Venard McLaughlin, of Phoenix, Arizona. Mr. McLaughlin has graciously permitted us to include it in this column.

RITUAL

These are your altars, Man:
A snouted, sweating, steel-clad tank
With smoking jaws and bloody flank,
A-prowl in fluid deadly rank.
This is your altar, Man.

And high above — the echelon
Intent with death to hurtle on
To make of living, carrion.
This is your altar, Man.

Beneath the sea a long steel shark,
In silence through a gray-green dark.
To rise, to kill, to find a mark.
This is your altar, Man.

Those well-sung pits dug deep in mud,
Anointed fresh with human blood,
One added stream to world-wide flood.
This is your altar, Man . . .

This is your sacrifice:
The temples tall youth might have made,
The temple thoughts now left unsaid;
The ills of men they might have stayed.
This sacrifice, O God.

The songs, the words, they might have sung,
The secrets dread they might have wrung
From earth; the courage of the young.
This sacrifice, O God.

The better world their lives could find
In tune with life and God's own mind,
The course of stars they might have lined.
This sacrifice, O God.

The loves, the joys they might have known,
The seeds of good they might have sown,
The flags of right they might have flown.
This sacrifice, O God.

These are your altars, Man,
And this your sacrifice;
What is the world you plan
For this, your sacrifice?

Venard McLaughlin

BARNES HOSPITAL

I have slept in homes domestic,
In hotels almost majestic,
And in every sort of place I've laid my poll.
I have slept on sleeping porches,
I have slept where camp fire scorches,
I have slept in sleeping bag and blanket roll.

I have slept while riding horses,
On the ground, which one endorses,
I have sometimes gone to sleep while standing up.
I have gone to sleep while walking,
I have often slept while talking,
I have curled up in a corner like a pup.

I have gone to sleep when driving
In an auto, yet surviving,
And in every kind of tent I've taken rest,
I have slept on chair and table,
In a tree and in a stable,
I have even slept in wigwams in the West.

For I took sleep where I found it,
And I did not walk around it,
And I did not utter damns or even darns;
But just now comes my undoing,
For with all my careful wooing,
There is one place I can't sleep and
that's in BARNES.

VICARIOUS GOLF.

I'm sure that you agree with the contention:
Necessity's the mother of invention;
And since I cannot play
My golf the usual way,
I now have something new worth your attention.

Sand traps and rough no longer terrorize me,
There are no hooks or slices to surprise me,
I'm all urbanity,
No more profanity,
All golf's vagaries now can't victimize me.

I play my game with amicability,
My soul is filled with peace and tranquility,
I happily proclaim
I've licked the lousy game;
Relieved am I of responsibility.

I chuckle and I laugh hilariously
For now I play the game vicariously;
I think I am quite foxy
To play my golf by proxy
While others struggle on precariously.



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VITAMINETS 'ROCHE'

Penicillin DOSAGE TABLE*

INDICATIONS	INITIAL DOSE (UNITS)	CONTINUING DOSAGE (UNITS)	UNITS IN 24 HR.	REMARKS
Serious Infections (staphylococcus, clostridium, hemolytic streptococcus, anaerobic streptococcus, pneumococcus, gonococcus, anthrax, meningococcus) Adults and children	15,000 to 20,000	(a) Intravenous drip: 2000 to 5000 every hr.	40,000 to 120,000 or more	(a) Dissolve ½ of 24 hr. dose in 1 liter (1000 cc.) normal saline; let drip at 30 to 40 drops per minute.
		or (b) Intramuscularly: 10,000 to 20,000 every 3 or 4 hr.	40,000 to 120,000 or more	(b) Concentration: 5000 U. per cc. normal saline.
		or (c) Intramuscular drip	40,000 to 120,000 or more	(c) Total daily dose in 250 cc. normal saline.
Infants	5000 to 10,000	3000 to 10,000 intramuscularly every 3 hr.	20,000 to 40,000 or more	Each dose in 1 or 2 cc. of normal saline.
Chronically infected compound injuries, osteomyelitis, etc. Adults and children	5000 to 10,000	10,000 every 2 hr. or 20,000 every 4 hr. intramuscularly or intravenously. Larger doses may be necessary at times.	40,000 to 120,000 or more	Concentration for intramuscular inj.: 5000 U. per cc. normal saline. For intravenous inj.: 1000 to 5000 U. per cc. Supplement with local treatment.
Gonorrhea	20,000 every 3 hr. intramuscularly for 5 doses		100,000	Results of treatment should be controlled by culture of exudate.
Empyema Adults and children	30,000 to 40,000 once or twice daily into empyema cavity		30,000 to 80,000	Dissolve in 20 to 40 cc. normal saline and inject into empyema cavity after aspiration of pus.
Meningitis Adults and children	10,000 once or twice daily into subarachnoid space or intracisternally		10,000 to 20,000	Concentration: 1000 U. per cc. normal saline.
Bacterial Endocarditis Adults and children	25,000 to 40,000	25,000 to 40,000 every 3 hr. intramuscularly	200,000 to 300,000	Continuous treatment for 3 weeks or longer. In a few cases the intravenous drip is more advantageous.

*Based upon recommendations by Chester S. Keefer, *War Production Board Penicillin Leaflet*, Apr. 1, 1945; and by Wallace E. Herrell and Roger L. J. Kennedy, *Journal of Pediatrics*, 25:505, Dec., 1944.

Write for pocket size copies of this Dosage Table

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1. Gold, H., et al.: J. Pharmacol. & Exper. Therap. 69:177, 1940.
2. Gold, H.: J. Conn. M. Soc. 9:193 (March) 1945.

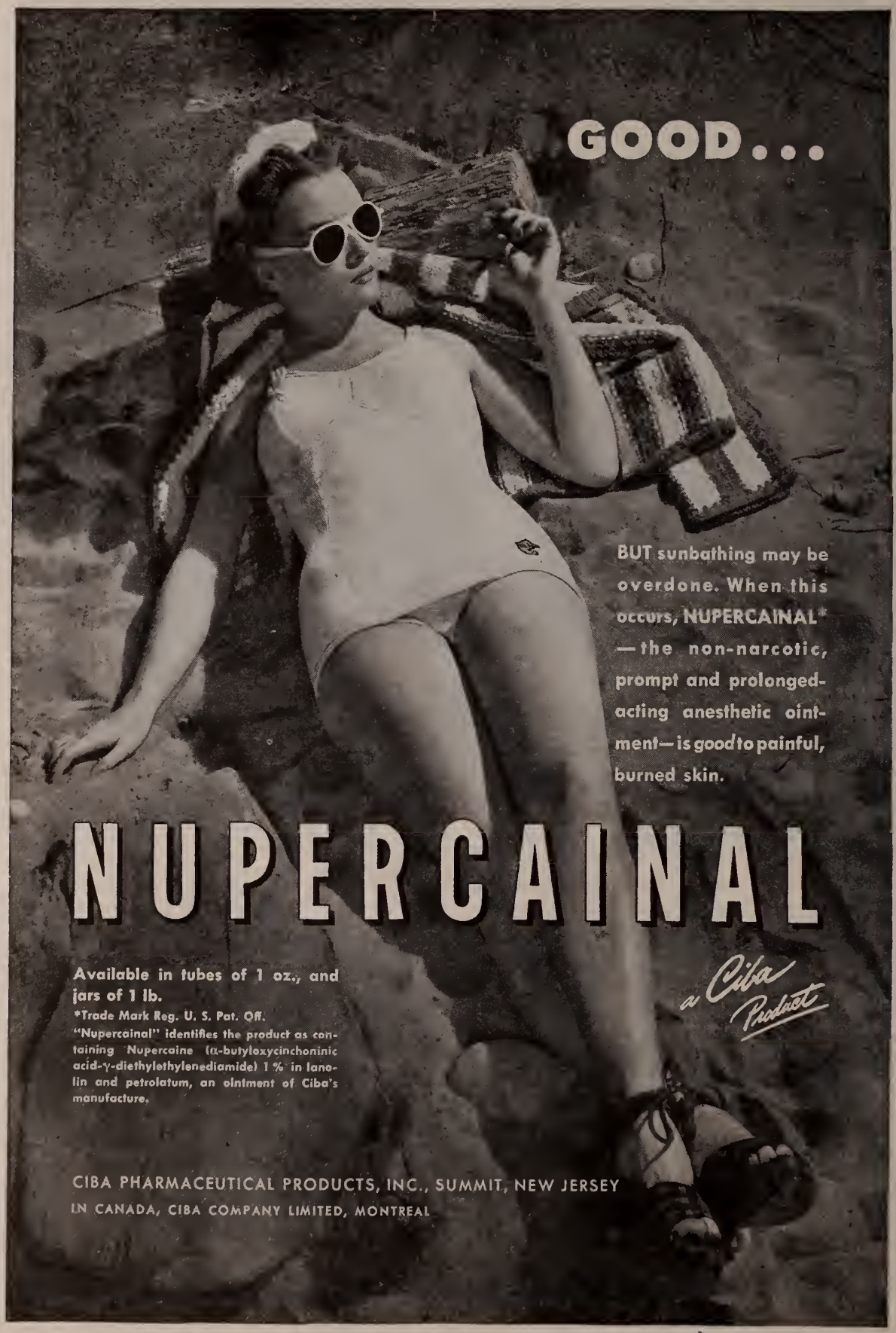
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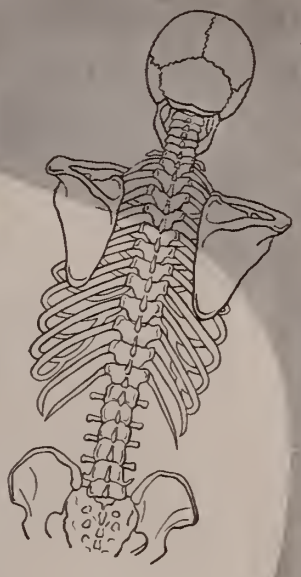
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*McCune, W. S., and Evans, J. M.: Intraventricular Penicillin in the Treatment of Staphylococcic Meningitis, J. A. M. A. 125:705 (July 8) 1944.

Gould, A. H.: Mixed Bacterial Meningitis Following Cranio-Cerebral Trauma, Rocky Mountain M. J. 41:560 (Aug.) 1944.

MacNeal, W. J., and Peasė, M. C.: Fulminant Meningococcemia Treated with Penicillin Calcium, Am. J. Dis. Child. 68:30 (July) 1944.

Rosenberg, D. H., and Arling, P. A.: Penicillin in the Treatment of Meningitis, J. A. M. A. 125:1011 (Aug. 12) 1944.

Sweet, L. K.; Dumoff-Stanley, E.; Dowling, H. F., and Lepper, M. H.: The Treatment of Pneumococcic Meningitis with Penicillin, J. A. M. A. 127:263 (Feb. 3) 1945.

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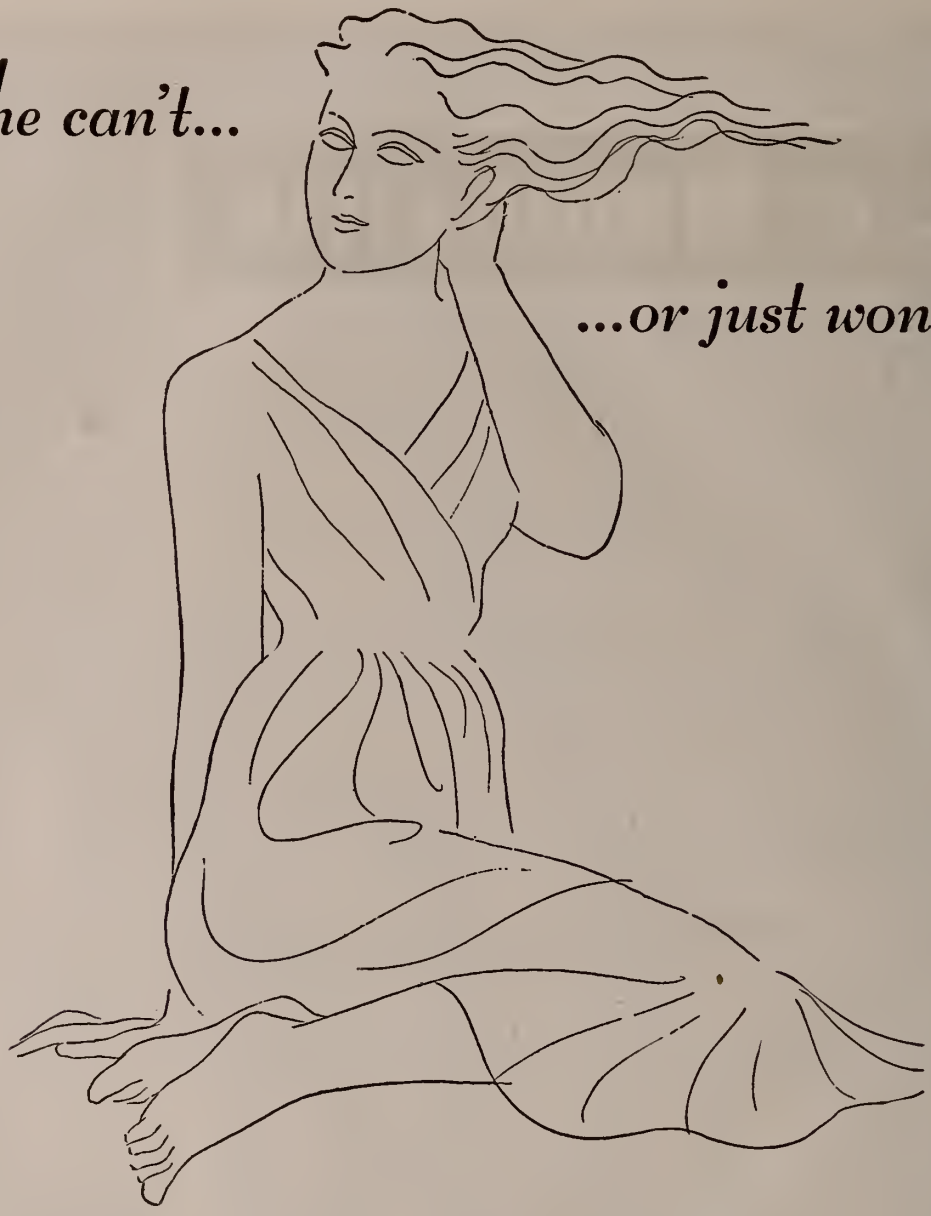
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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.



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ARSENOFERRATOSE ELIXIR holds a distinctive position among liquid preparations of hematinic elements—because its organic iron is easily assimilated, its metabolism stimulating arsenic is therapeutically effective in minimal doses, and its delectable vehicle is agreeably palatable.

ARSENOFERRATOSE offers optimal regeneration of hemoglobin without producing undesirable side-effects; the stomach tolerates it at once and in full therapeutic amounts—thus the necessity for graduated doses is obviated; easy and convenient administration, precise and reproduceable pharmacologic action, and economy consistent with the type of fabrication required for this product—collectively, these desirable attributes make Arsenoferratose *the iron preparation of choice!*

Indications: For the treatment of hypochromic and other secondary anemias . . . To cure iron deficiency disease . . . To build iron reserve . . . To hasten convalescence . . . To prevent insufficiency of iron in today's restricted diets . . . To counterbalance possible blood damage in sulfa-drug therapy.

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Book Reviews

A TEXTBOOK OF PATHOLOGY; Pathologic Anatomy in Its Relation to the Causes, Pathogenesis, and Clinical Manifestations of Disease; By Robert Allan Moore, Edward Mallinckrodt Professor of Pathology, Washington University School of Medicine, St. Louis. 513 Illustrations, 34 in Color. W. B. Saunders Company, Philadelphia and London, 1944. Price $10.00.

"Students must learn to apply the facts and theories of anatomy, physiology, chemistry and bacteriology to an elucidation of the causes, processes and effects of disease". There being such a close relationship between these important branches of the medical curriculum, it is essential that the student be able to recognize first the normal reaching ahead into the clinical branches of medicine then he can more readily detect the effects of disease in the various body structures and tissues.

Beginning with the history and scope of pathology, the author appropriately divides the subject matter into seven parts. The first deals with general pathology; the second is relative to diseases caused by living agents and is subdivided according to the portal of entry into the body of the infective agents. Part three deals with diseases caused by physical agents such as trauma, changes in atmospheric pressure, and radiant energy.

Part four discusses diseases caused by chemical agent; part five, diseases related to pregnancy and the fetal and newborn states. Part six relates to diseases caused by deficiencies, vitaminic and special in nature. Part seven discusses diseases of unknown or obscure cause, systemic pathology.

Beginning with the thoracic and abdominal viscera, this part in turn gives careful consideration to the cardiovascular system and blood forming organs, the endocrine system, the reproductive organs, the nervous system, and the musculoskeletal system.

The book is based upon pathologic anatomy in its relation to the causes, pathogenesis, and clinical manifestations of disease. The author's approach is unique indeed, and his basis for the arrangement of subjects is well founded. There are 513 illustrations, many in color, which add materially to the value of the book. The material will not only be of value to students, but likewise to the clinician and general practitioner who will no doubt use it freely in their daily work.

CLINICAL ROENTGENOLOGY OF THE DIGESTIVE TRACT: By Maurice Feldman, M.D., Assistant Professor of Gastroenterology, University of Maryland, Assistant in Gastroenterology, Mercy Hospital, Consulting Roentgenologist, Sinai Hospital. Second Edition. The Williams & Wilkins Company, Baltimore, 1945.

(*Continued on page* 48)



VERATRITE* combines in a tabule a BIO-ASSAYED Veratrum Viride—Irwin, Neisler—with sodium nitrite and phenobarbital. Advantage of Veratrite therapy in essential hypertension can be seen in the favorable circulatory effects of the product. By widespread vasodilation, vagus stimulation and reflex heart action an improved arterial circulation is obtained with a gradual prolonged fall in pressure. Tabules Veratrite, in addition, exhibit a wide range of therapeutic safety.

Dosage: Administer two hours after meals. 1st week, 3-6 tabules daily; check pressure for response in each patient. 2nd week, 6 tabules daily; increase or decrease dosage according to response.

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BOOK REVIEWS (Continued)

The first edition of this book was published in 1938, and with the many changes in equipment and technique, the present edition was published in January of this year.

The author has had much experience in clinical roentgenological consideration of diseases of the gastrointestinal tract as he has been interested in this subject for 26 years. He endeavors in the book, to bring together every phase of the subject in a single volume.

The book is divided into 20 chapters, the first covering the esophagus, then in turn, every part of the gastrointestinal system is considered showing the value of roentgenological examinations in detecting pathologic or anatomic abnormalities.

In addition to the author's own experience, he has borrowed freely from other roentgenologists. It is quite obvious that a great amount of time has been devoted to the development of the book which he states "is written as an aid for the roentgenologist, gastroenterologist, student and general practitioner". It should be of much interest to all these groups, especially to those doing their own roentgenological work who have not had the wide experience needed in the interpretation of findings.

This edition of the book should be as popular as the previous edition, and should be of material aid to many physicians and students interested in the highly important subject of diseases of the gastrointestinal tract.

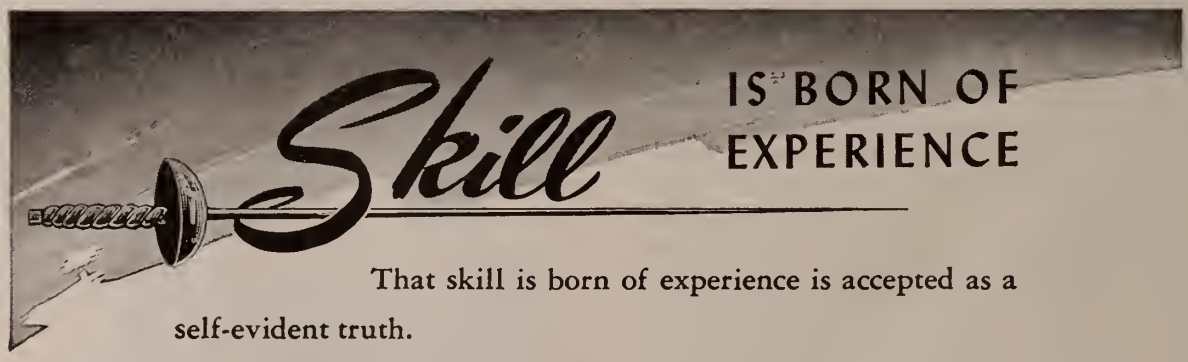
DOCTORS AT WAR: Edited by Morris Fishbein, M.D., Editor, Journal of the American Medical Association. 82 photographs plus charts and diagrams. 418 pages. E. P. Dutton & Company, Inc., New York, 1945. Price $5.00.

Sixteen leading authorities responsible for organizing the medical services for World War II, tell what each branch of the service has done to make the outstanding care of those in our armed forces possible. The book is divided into sixteen chapters the first of which was written by the editor, Dr. Fishbein, who gives highly interesting data on the many problems encountered in the plans for mobilizing the desired number of doctors for service. He also tells interesting stories concerning the developments in medical science since the attack on Pearl Harbor which have added materially in the improvement of statistics over those for World War I.

Colonel Rowntree, Chief of the Medical Division, Selective Service System, relates in much detail the medical side of Selective Service. A critical analysis of the rejection of selectees who could not meet the standards, is given, and it does not show that the American People are a nation of weaklings.

Harold S. Diehl, member of the Directing Board, Procurement and Assignment Service, tells the interesting story of the development of that branch of

(*Continued on page* 50)



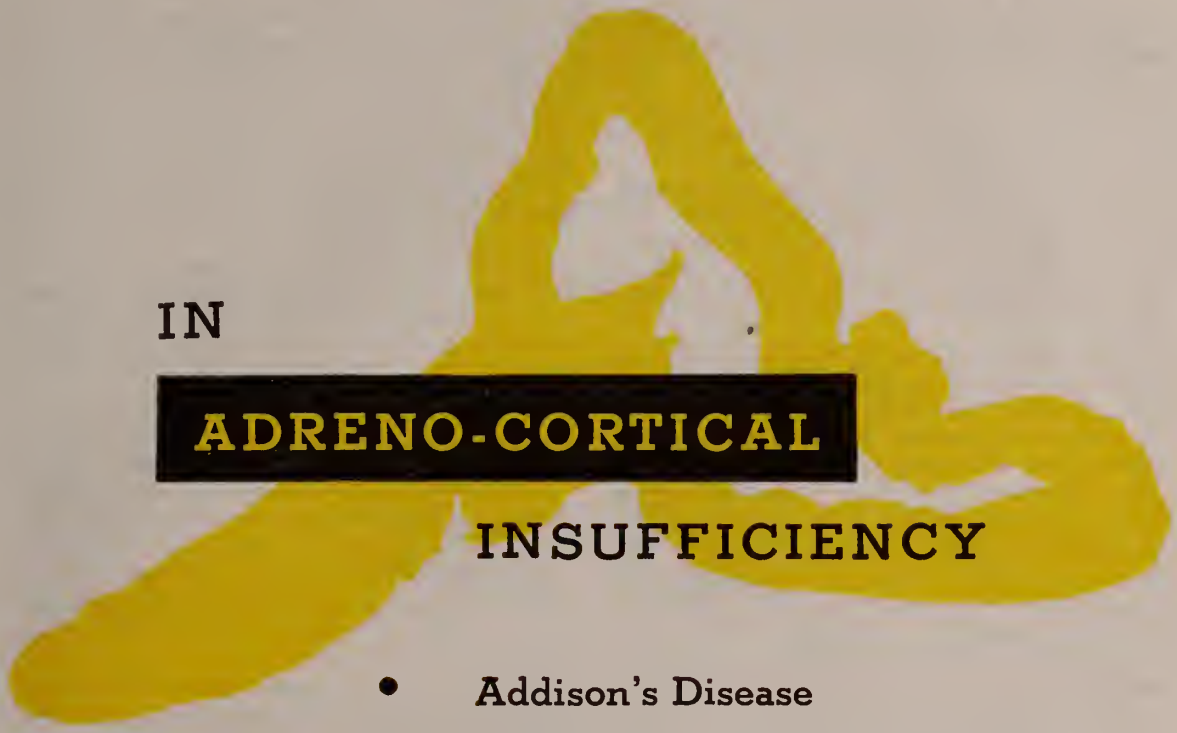
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BOOK REVIEWS (Continued)

the War Manpower Commission which had to deal with the procurement of medical personnel for our armed forces.

The Surgeons General of the Army, Navy and Public Health Service tell of the development of these services in connection with medical work in war time, and show the high degree of proficiency which was attained in their respective branches. The interesting story of how medicine in the European theater of operations prepared for D-Day is given by Major General Paul R. Hawley, Chief Surgeon, E.T.O.

Detailed accounts of the doctor at Guadalcanal and Tarawa are discussed by Captain French R. Moore, MC U. S. Navy. Interesting stories of the hardships and difficulties in treating casualties under unusual conditions, even in foxholes, are related in this chapter.

Major General David N. W. Grant, the Air Surgeon, discusses the medical mission in the Army Air Forces telling of the many problems encountered in this branch of the service, which differ materially from the problems of other essential branches. The transportation of casualties by air has been a big factor in the markedly reduced mortality rates in this war, and much information along this line is given by General Grant.

Other contributors are Major General George F. Lull, Deputy Surgeon General, U. S. Army; Charles M. Griffith, Medical Director, Veterans Administration; George B. Darling, Vice-Chairman of the Division of Medical Sciences, National Research Council; Brigadier General Fred W. Rankin, Chief Consulting Surgeon, U. S. Army; G. Canby Robinson, National Director of the Red Cross Blood Donor Service; Brigadier General James S. Simmons, Chief of the Preventive Medicine Service, U. S. Army, and Colonel Howard A. Rusk, Chief of the Convalescent Training Division, Army Air Forces.

The book, written for the layman as well as for the doctor, should be of much interest to everyone concerned with the welfare of our armed forces, and we predict that its popularity will be maintained indefinitely.

A Textbook of Ophthalmology: By Sanford R. Gifford, M.A., M.D., F.A.C.S., Formerly Professor of Ophthalmology, Northwestern University Medical School, Chicago; Formerly Attending Ophthalmologist, Passavant Memorial and Cook County Hospitals. Third Edition, Revised. 457 pages with 215 illustrations and 13 color plates. Philadelphia and London: W. B. Saunders Company, 1945. Price $4.00.

In this, the third edition which Doctor Gifford completed before his death, the author continues the same thoroughness and care of presentation which charac-

(*Continued on page* 52)

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CITRATE of MAGNESIA U.S.P.

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BOOK REVIEWS (Continued)

terized the previous editions, with additions of new material, illustrations, and drawings which brought the book up to date. The new sections which have been added have to do with ptosis, contact glasses, cyclodiathermy and epidemic kerato-conjunctivitis.

The author attempts and actually succeeds in compressing into a small volume the essential facts of modern ophthalmology, omitting nothing which is essential and of practical importance, but he does not burden the reader with non-essentials.

He again demonstrates his ability to express himself in a clear and concise manner, thus making his book indispensible to the student, the general practitioner and the ophthalmologist.

Doctor Gifford continues the practice of expressing certain personal preferences which has always added so much to the practical value of his writings.

F.C.W.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

A Textbook of Ophthalmology (Third Edition) By Sanford R. Gifford, M.A., M.D., F.A.C.S., Formerly Professor of Ophthalmology, Northwestern University Medical School, Chicago; Formerly Attending Ophthalmologist, Passavant Memorial and Cook County Hospitals. Third Edition, Revised. 457 pages with 215 illustrations and 13 color plates. Philadelphia and London: W. B. Saunders Company, 1945. Price $4.00.

Physical Diagnosis (Third Edition): By Ralph H. Major, M.D., Professor of Medicine, The University of Kansas, Kansas City, Kansas. Third Edition, Revised. 444 pages with 458 illustrations. Philadelphia and London; W. B. Saunders Company, 1945. Price $5.00.

Technical Methods for the Technician: By Anson Lee Brown, A.B., M.D., Director of Dr. Brown's Clinical Laboratory and Dr. Brown's School for Technicians, Columbus, Ohio. Published by the author. Printed by B-B Printing Company, 329 South Fourth Street, Columbus, Ohio, 1944. Price $10.00.

My Second Life: By Thomas Hall Shastid, A.M., M.D., LL.B., Sc.D., F.A.C.S., F.A.C.P., illustrated. 1944. George Wahr, Publisher to the University of Michigan, Ann Arbor, Michigan. Price $10.00.

(*Continued on page* 54)

Effective, safe, LOCAL chemotherapy in oropharyngeal infections

HIGH LOCAL CONCENTRATION



HIGH and PROLONGED salivary concentration of sulfathiazole is brought directly to the site of oral and pharyngeal infections following the use of—

White's SULFATHIAZOLE GUM*

Even a single tablet of White's Sulfathiazole Gum chewed for *one-half to one hour* provides a high concentration of locally active sulfathiazole. The medication is brought into immediate and *prolonged* contact with oropharyngeal areas which are not similarly reached by ordinary measures of topical chemotherapy. Moreover, resulting blood levels of the drug, even with maximal dosage, are so low that systemic toxic reactions are virtually obviated.

INDICATIONS: Local treatment of sulfonamide-susceptible infections of oropharyngeal areas:

a. acute tonsillitis and pharyngitis;
b. septic sore throat;
c. infectious gingivitis and stomatitis;
d. Vincent's disease

Also indicated in the prevention of local infection secondary to oral and pharyngeal surgery.

DOSAGE: One tablet chewed for *one-half to one hour* at intervals of one to four hours depending upon the severity of the condition.

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LOW SYSTEMIC ABSORPTION



High Local Concentration: One pleasantly flavored Sulfathiazole Gum tablet chewed for *one-half to one hour* promptly provides a high concentration of locally active sulfathiazole (average 70 mg. per cent) *that is maintained throughout the chewing period.*

Low (negligible) Systemic Absorption: Blood levels of the drug, even when maximal dosage is employed, are almost negligible—rarely reaching 0.5 to 1 mg. per cent.



***IMPORTANT:* Please note that your patient requires your prescription to obtain this product from the pharmacist.**

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FOR CONTROLLING
DANDRUFF and ACNE

Using the drug sulphur, in the form of an active, stable colloid, in a cream which itself is an excellent soapless cleanser, is the basis for the new "Therapeutic Cleansing" technique with Collo-Sul Cream.

In DANDRUFF, cleansing with Collo-Sul Cream results in prompt control and avoids the over-stimulation of the sebaceous glands following the use of soap.

In ACNE VULGARIS and ACNE ROSACEA, Collo-Sul Cream, as a soapless cleanser, avoids the irritating action of soap, and then — used as a vanishing cream, keeps the skin under *active sulphur therapy 24 hours a day.*

In 2 oz. jars and 1 lb. jars at leading pharmacies.

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COLLO-SUL Cream

CROOKES

PRESCRIPTION PRODUCTS

BOOKS RECEIVED (Continued)

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES: By Paul Titus, M.D., Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; Consulting Obstetrician and Gynecologist to the Pittsburgh City Homes and Hospital, Mayview, and to the Homestead Hospital, Homestead, Pa; Secretary of the American Board of Obstetrics and Gynecology; Commander (MC) USNR, attached to Professional Division, Bureau of Medicine and Surgery, Navy Department, Washington, D.C. With 426 Illustrations and 8 Color Plates. Third Edition. The C. V. Mosby Company, St. Louis, 1945. Price $10.00.

THE FUNDAMENTALS OF ELECTROCARDIOGRAPHIC INTERPRETATION: Second Edition. By J. Bailey Carter, M.D., F. A. C.P., Assistant (Rush) Professor, Department of Medicine University of Illinois College of Medicine; Attending Staff, Cook County Hospital, Augustana Hospital, Chicago. With a Foreword by Horatio Burt Williams, M.D., Dalton Professor of Physiology, College of Physicians and Surgeons, Columbia University, New York. Charles C. Thomas, Publisher, Springfield, Illinois, 1945. Price $6.00.

DIETOTHERAPY: Clinical Application of Modern Nutrition: Edited by Michael G. Wohl, M.D., Associate Professor of Medicine, Temple University School of Medicine; Chairman, Advisory Committee on Nutrition, Philadelphia Department of Public Health; With a Foreword by Russell M. Wilder, M.D., Ph.D., Professor of Medicine and Chief of the Department of Medicine, Mayo Foundation; Member of the Committee on Medicine and Subcommittee on Medical Nurition, Medical Sciences Division, National Research Council. 1029 pages with 93 illustrations. Philadelphia and London: W. B. Saunders Company, 1945. Price $10.00.

PENICILLIN AND OTHER ANTIBIOTIC AGENTS: By Wallace E. Herrell, M.D., M.S., F.A.C.P., Assistant Professor of Medicine, the Mayo Foundation, University of Minnesota; Consultant in Medicine, Mayo Clinic, Rochester, Minnesota. 348 pages with 45 illustrations. Philadelphia and London: W. B. Saunders Company, 1945. Price $5.00.

It is universally agreed that patients who have been dismissed from tuberculosis sanatoria should receive the benefit of continued medical supervision. Tuberculosis is a treacherous disease. Even arrested pulmonary tuberculosis may break down when the patient returns to the customary activity of civilian life. Occasionally, extrapulmonary tuberculosis will become manifest after the patient leaves the sanatorium. It is very important that the dismissed patient present himself for periodic examination. By doing so he not only safeguards his own health and security, but he may also prevent the dissemination of tuberculosis among his family and other persons. Arthur M. Olsen, M.D., Mayo Clinic, Rochester, Minnesota.



THE Tuberculosis unit above (200 beds) and Orthopedic unit below (60 beds are complete in every detail. Unusual refinements and reasonable rates because of the services of the Hospital Sisters of St. Francis.

Complete medical staff for both medical and surgical services for all types of tuberculosis and all types of crippled children.

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Wm. L. Brown, M.D., Director

REPORT A NEW METHOD FOR REPAIRING SEVERED ARTERIES WITHOUT SUTURES

A new method whereby severed arteries are joined together by means of vein grafts, the ends of which are enclosed in vitallium tubes, thus eliminating the necessity of sutures, is reported by Arthur H. Blakemore, M.D. and Jere W. Lord Jr., M.D., New York, in *The Journal of the American Medical Association* for March 31.

Of immediate importance in application to the hazards of war wounds, the technic already has been applied to cases where the removal of blood vessel tumors involves anastomosis. The efficiency of the nonsuture method over the use of suture lies in the fact that the possibility of infection and blood clots is greatly decreased.

Vitallium, a nontarnish alloy, was selected as the material from which to make the cannulas or tubes. This metal may be left in tissues for indefinite periods without causing objectionable irritation or reaction. The technic consists of drawing the ends of the vein graft through the tubes, turning them back over the ends and tying them down. The ends of the severed arteries are pulled over the ends of the graft and also tied down. In this way the blood does not come in contact with the severed ends of the artery or the vein, which are the sites of potential infection.

"The anatomic arrangement of collateral blood vessels," the two authors say, "in relation to main arteries in human extremities is such that war missiles causing damage to main arteries, of necessity, cause more or less damage to collateral vessels. There is, unfortunately, an anatomic limit to the number of collateral vessels that can be damaged and yet have a limb surviving ligation of a damaged artery.

"In this war, then, with effective treatment for shock, control of infection and vasospasm — adjuncts known to promote the blood carrying capacity of undamaged collaterals — a limb survives or dies following ligation of a damaged main artery in direct accordance with the number of collateral vessels remaining anatomically intact. . . .

"The control of infection and blood clotting assures the success of blood vessel anastomosis

(*Continued on page* 58)



ERYSIPELOID
(Rosenbach's Disease)

Not to be confused with streptococcic erysipelas, this extremely painful, and sometimes even fatal infection is caused by Erysipelothrix rhusiopathiae. It is observed rather frequently among those brought into contact with animals and fish. Veterinarians, slaughterhouse-workers, butchers, farmers, bone-button makers, fish-handlers and cooks are most likely to contract the condition, which usually starts as an erythema at the site of primary infection, notably the fingers.

Now—WELL-TOLERATED TREATMENT WITH *Concentrated* ANTI-ERYSIPELOID SERUM

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HOW SUPPLIED

Pitman-Moore Concentrated Anti-Erysipeloid Serum is available in 10 cc. vials. Two to five cc. is usually adequate for the initial dose. In some instances repeated or increased dosage will not be necessary.

Since the disease in animals responds to sero-therapy, the unrefined anti-swine erysipelas serum was employed in human cases, with much success. However, this unconcentrated serum, in effective dosage, leads rather frequently to anaphylaxis and serum reactions.

REDUCED REACTIONS—To minimize this objection, Pitman-Moore Laboratories have developed a *concentrated* and *refined* antiserum for human use, in which the volume is reduced as much as 80%.

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Efficient
Under Adverse Conditions

In clinical practice it is essential that an antiseptic retain its efficiency even in the presence of blood, serum, exudates and other interfering agents.

In vitro tests comparing the bactericidal efficiency of Iodine and organic mercurial antiseptics recently were conducted, using thioglycollate medium which inactivates or neutralizes the antiseptic action of many substances and preparations.*

Markedly greater bactericidal efficiency of the U.S.P. Iodine Solutions was demonstrated under these conditions.

*"Bactericidal Efficiency of Iodine Solutions and Organic Mercurial Antiseptics", Amer. Jour. Pharm., 117:5 (Jan.) 1945.

IODINE
Foe of Infection

Iodine Educational Bureau, Inc.
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ARTERIES (Continued)

and hence the control of blood flow. The elimination of devitalized tissue by debridement, the control of infection and an adequate supply of blood constitute a basic triad on which successful salvage of wounded extremities with main artery damage depends. Restoration of a pulsating normal volume blood flow by anastomosis revitalizes damaged tissues. It is a fact that damaged, anemic tissues afford a peculiarly favorable medium for the development of gas bacilli. Likewise a diminished blood flow disposes to the development of bone infection and delays bone union and the healing of wounds in general. . . .

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Physical fitness is a worthy objective for the laity and the medical profession alike. Every activity that favors physical and muscular development merits support. On the other hand, man has his intellectual, moral and spiritual side in addition to his physical side. The youth movement in Germany was highly successful in developing the physical fitness of her young men and women. Lack of emphasis, however, on the moral and spiritual needs of her people has resulted in tragedy for Germany and the rest of the world. Ed., Minn. Med., Dec. 1944.

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The extremely toxic qualities of the substance have not been sufficiently emphasized. Containers of cleaning fluids, eleven different varieties of which, all containing carbon tetrachloride, were found for sale at one New York department store, as a rule emphasized the safety factor of the non-inflammable quality of the preparation, but warnings of the poisonous qualities of the preparation if present at all were in small type.

Carbon tetrachloride can exert its toxic action through inhalation of the fumes, and in confined spaces with poor ventilation can cause serious and even fatal poisoning in a comparatively short period of time. If ingested, very small doses have proven fatal. Of the reported fatalities in one series collected in 1935, half were due to its use as an anthelmintic. Children have died from as small doses as 0.3 to 1.0 c.c. taken internally. Adults with reduced calcium in their systems or alcoholics have poor resistance to carbon tetrachloride.

The substance exerts its toxic action on the liver, kidneys, heart, and adrenals. These organs show necrosis and fatty degeneration. The chlorine of the C Cl_4 molecule is converted to HCl in the body and the poison resembles that of phosgene.

Gennebra in 1939 collected 141 reported cases of poisoning from carbon tetrachloride with thirty-nine fatalities. Many certainly have not been reported. Proper precautions are probably taken by industry, or there would be more cases of poisoning. Most physicians never see a case, but some mild cases are doubtless overlooked.

There is no governmental regulation of the sale of carbon tetrachloride. Its widespread use indicates its commercial value. However, the danger of poisoning from the fumes or ingestion of preparations containing the substance should receive more emphasis on labels and sales of cleaning fluids for household use should be limited to a pint.—*Minnesota Medicine,* May 1945.



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Thiouracil, a drug widely used in recent years for the treatment of toxic goiter, has proved effective in a small group of patients by relieving pain associated with angina pectoris, a common form of heart disease associated with pain, according to preliminary studies reported in the May 26 issue of *The Journal of the American Medical Association.*

Wilhelm Raab, M.D., of the University of Vermont College of Medicine, Burlington, Vt., says that thiouracil medication proved effective in seven out of 10 patients with angina pectoris. In four cases, three of which were severe, the symptoms disappeared entirely during the treatment.

Dr. Raab explained that the treatment which is similar for goiter and angina pectoris has much the same effects in both conditions since the maximum improvement in heart patients was reached when the basal metabolic rate had fallen seven to 27 points below its pre-treatment level. The thiouracil also acts to reduce the metabolic rate in goiter patients.

The Vermont College physician cited the case of one man, age 70, who suffered from attacks of severe heart pain under the breast bone for three years. The pain persisted usually for about five minutes, and at times he could not walk farther than 50 feet without stopping. Thiouracil was given in two periods of four months and five months respectively. During the first period the attacks disappeared within one month, except for two more isolated attacks, and during the second period three weeks elapsed before the attacks disappeared completely. The patient has since been able to walk and climb hills at a fast pace without any discomfort.

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MIXING DRINKS AND INTOXICATION

Despite the general belief that there is a greater tendency toward drunkenness if alcoholic beverages are mixed successively, it is reported in *The Journal of the American Medical Association* for April 7, it is probable that the differences are really quite small and that an equal amount of alcohol, taken in the same total volume of liquid, would produce practically equivalent effects. *The Journal* says in answer to a query:

"The concentration of alcohol in the blood and brain is determined chiefly by the amount of alcohol consumed. However, the rate of absorption also affects the concentration reached, since if it is slow some of the alcohol may be destroyed or excreted before the peak is reached. Absorption may be delayed by dilution or by delay in emptying the stomach, since more rapid absorption occurs below the pylorus. The greater intoxicating effect of liquor taken on an empty stomach than that taken after a meal has been often remarked. Water or foodstuffs taken with liquor may be expected, accordingly, to lessen the intoxicating effect. Excitement or activity may also slow absorption of alcohol. Factors accelerating gastric emptying increase the effect of alcoholic beverages. Individual susceptibilities may depend on the previous experiences and associations of the drinkers.

"Many experienced drinkers claim that mixing drinks accelerates their absorption and the rapidity of onset and depth of intoxication. It has also been reported that mixing drinks hastens the onset of nausea, vomiting and the unpleasant after-effects following a drinking bout. It is possible that the olfactory and gustatory effect of mixed drinks may be to accelerate gastric emptying and hence absorption. Also the addition of water to single drinks may result in diluting the alcohol to a greater extent than the dilution produced by mixing several beverages each of which contains considerable alcohol. The mixed drink may not only represent a higher alcohol content than the single beverage, then, but the drinker, ignoring this fact, may consequently drink more when he mixes his drinks, without realizing the fact. . . ."

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No plan for tuberculosis control in industry is complete unless education on the subject is continuous and has been made a large part of the program. There is much skepticism in some of the workers as well as in management of the value of educational measures. Yet no one is willing to deny the insurmountable difficulties which obstruct efforts to prevent disease where ignorance of the dangers and of the protective possibilities exists. The objective is to impart information which will function practically in the immediate routine of our common daily life. T. Lyle Hazlett, M.D. Ind. Med., Mar. 1944.



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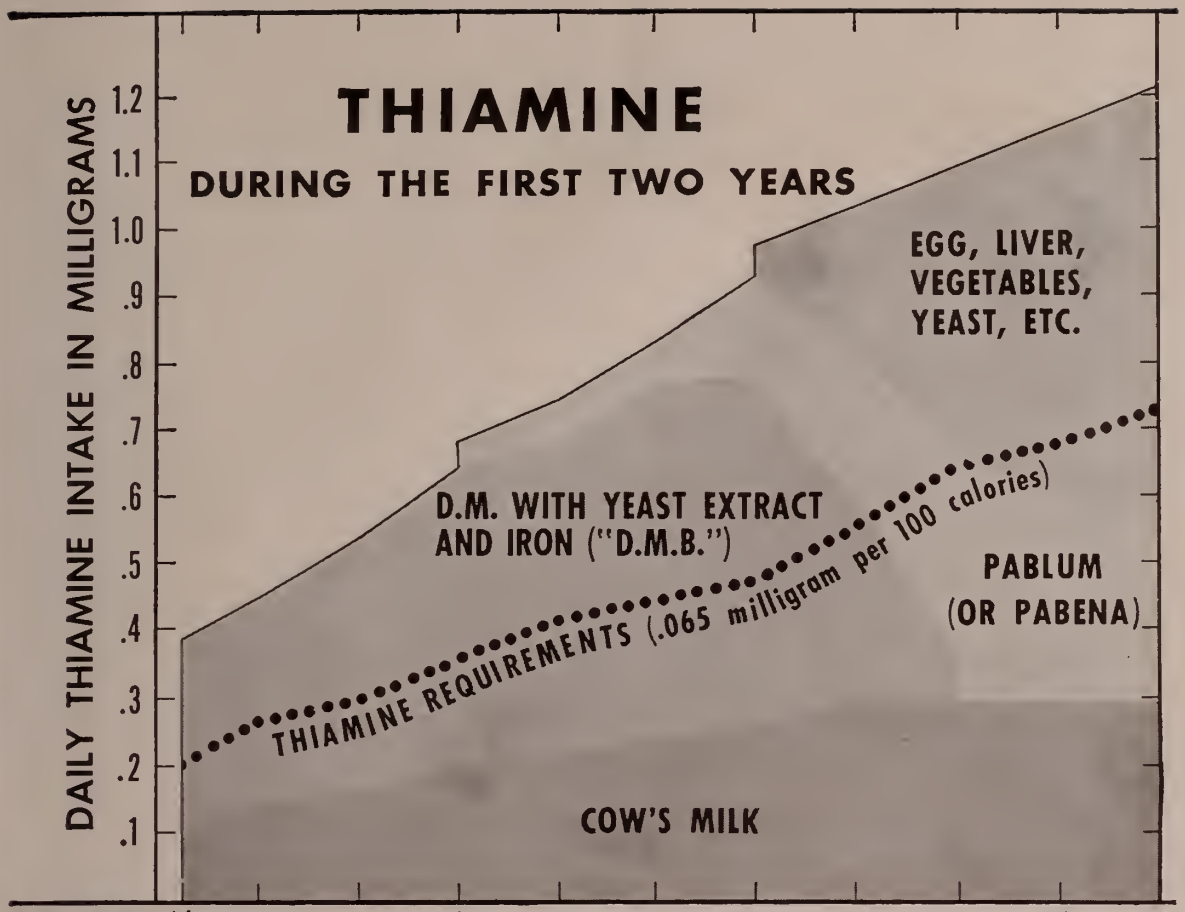
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